ORDER

6410.14

DBRITE PROJECT IMPLEMENTATION PLAN

SEPTEMBER 15, 1988

DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

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DIRECTIVE NO. 6410.14

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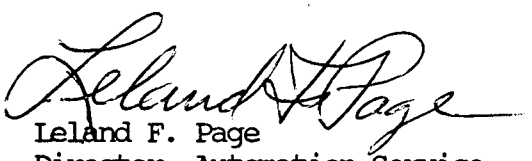
FOREWORD

This order transmits the project implementation plan for the DBRITE. It provides guidance and direction for the orderly implementation of the DBRITE at all terminal sites. The procedures and responsibilities of this joint Federal Aviation Administration/Department of Defense project, with the United States Air Force as the procuring agency, were developed through the FAA/USAF Interagency Agreement DTFA01-84-2-0204B and within the bounds of FAA directives for the DBRITE project. This order establishes program management, project implementation policy and responsibilities governing the activities of organizations and also identifies and describes specific events and activities to be accomplished in order to implement the DBRITE project.



Leland F. Page
Director, Automation Service

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CHAPTER 1. GENERAL

1. PURPOSE. The Project Implementation Plan (PIP) presents overall guidance and direction for the orderly implementation of the digital brite radar indicator tower equipment (DBRITE) at the terminal sites. The plan establishes program management, project implementation policy and responsibilities governing the activities of organizations. The plan also identifies and describes specific events and activities to be accomplished in order to implement the DBRITE.

2. DISTRIBUTION. This order is distributed by Federal Aviation Administration (FAA) Headquarters to the division level within Automation Service (AAP), Program Engineering Service (APS), Systems Engineering Service (AES), Acquisition and Materiel Service (ALG), Systems Maintenance Service (ASM), Air Traffic Operations Service (ATO), Air Traffic Plans and Requirements Services (ATR), Office of Personnel and Technical Training (APT) and Associate Administrator for Air Traffic (AAT-10) at FAA Headquarters; to the divison level at the FAA Technical Center (FAATC); to the regional Airway Facilities and Air Traffic divisions; and to Airway Facilities and Air Traffic field offices receiving DBRITE equipment.

3. AUTHORITY TO CHANGE THIS ORDER.

a. Authority. This plan is issued under the authority of the Director, Automation Service, AAP-1; Director Air Traffic Plans and Requirements Service, ATR-1; and Director, Air Traffic Operations Service, ATO-1. The authority to issue changes to this order is reserved for the Director, Advanced Automation Service.

b. Applicability. The information contained herein shall be used by FAA offices, services, regions, Mike Monroney Aeronautical Center (AAC) and FAA Technical Center (FAATC), terminal sites, and contractor personnel for accomplishing their support of the DBRITE implementation activities. The guidance and schedule information contained herein shall form the framework for these organizations in the more detailed planning activities required at the regional and field levels. Deviations from this plan must be approved by the Director, Advanced Automation Services, APS-1.

c. Duration. The duration of the program shall continue through to the last DBRITE site commissioning.

4.-19. RESERVED.

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CHAPTER 2. PROJECT OVERVIEW

20. SYNOPSIS.

a. Objective. The DBRITE is a direct replacement for the present bright radar indicator tower equipment (BRITE) I, II, IV and bright alphanumeric system (BANS) used in the air traffic control towers (ATCT). The basic function of these systems is to provide the tower controllers with aircraft position information similar to that in a FAA terminal radar approach control (TRACON) or military radar approach control (RAPCON). The objectives of the DBRITE are to provide better visual capability in the tower, display additional information, improve system reliability and reduce maintenance requirements.

b. DBRITE Procurement. The DBRITE project is a joint procurement by the FAA, the United States Air Force (USAF) and Army (USA). The USAF, Electronic Systems Division, Military Air Traffic Control Division (ESD/TCV) at Hanscom AFB, MA., was delegated the DBRITE project management and procurement responsibility. The FAA focal point is the Air Traffic Control Automation Division, Terminal Automation Program Branch, AAP-320. UNISYS, System Development Group, Paoli, PA., was awarded the DBRITE contract on July 2, 1986. The number of DBRITE systems to be manufactured is approximately 400 with contract options for additional units. The FAA will purchase about 75% of the systems.

(1). DBRITE Tasks. The contractor is responsible to provide a "turnkey" system. The tasks included engineering design, manufacturing, installation and logistic support. Logistic support provides hardware spares, technical manuals, training material and early depot maintenance. Testing is a major function by both the contractor and Government throughout these tasks. In addition to project management, FAA responsibilities include FAATC testing, Depot training, Academy and field training, site preparation, installation management and system commissioning.

(2). DBRITE Technology. The DBRITE uses a digital scan converter which is inherently more reliable and stable than the current indicator/TV camera system. The converter uses state of the art technology 256K memory chips and unique gate array chips. A square cathode ray tube with special phosphor and bonded filter provides an improved, flicker free picture in the high ambient light conditions of the tower. Site maps can be selected from Read-Only-Memories (ROM) in the DBRITE. The design minimizes the number of manual adjustments in the system. A continuous on-line diagnostic test presents system fault conditions on the display screen. Off-line diagnostic tests provide a high probability of identifying faulty line replaceable units (LRU).

21. PURPOSE. The improvement of terminal systems is a fundamental objective of the National Airspace Systems (NAS) Plan. The objectives of the NAS Plan are to maintain a very high level of safety, impose minimum

constraints consistent with efficient use of the system and minimize FAA operations cost. The DBRITE project meets these objectives by improving the visual capability in the ATCT, displaying additional information, increasing system reliability and reducing maintenance requirements.

22. HISTORY. The current BRITE systems have been in the field since 1967. The Systems Program Division, Air Traffic (AAT-100) provided a requirements letter dated March 31, 1983 that stated their need for improved BRITE performance. The performance problems identified by AAT-100 included the difficulty in viewing the tower display, the continuous change in focus, resolution/registration errors and the numerous maintenance tasks experienced. AAT recommended replacement of the BRITE systems at all locations with state-of-the-art equipment. The result is the DBRITE project.

23.-29. RESERVED.

CHAPTER 3. PROJECT DESCRIPTION

30. FUNCTIONAL DESCRIPTION. A description of the DBRITE function, system composition, digital scan converter cabinet, and tower cab equipment are contained in the following paragraphs.

a. DBRITE Function. The DBRITE is a tower display system that provides a raster scan presentation of radar/beacon videos and automation system alphanumeric (A/N) data. The DBRITE is a direct replacement for existing BRITE I, II, IV and associated BANS. The system accepts radar, beacon, external map analog video and automation system data. These signals are combined with internal DBRITE digital site maps, compass rose, and range marks into a composite TV signal for presentation on the tower display unit. A keyboard and remote control unit provide data entry inputs and functional selection capabilities for the system.

b. System Composition. A typical DBRITE system is shown in Figure 3-1. Table 3-1 identifies the DBRITE units and FAA type numbers.

(1). DBRITE Configurations. There are four configurations of DBRITE to support four automation systems: ARTS IIA, ARTS IIIA, PIDP and TPX-42. The FAA DBRITEs will interface with ARTS IIA/IIIA systems and a limited number of PIDPs. The automation system connector (ASC) panels, remote control units (RCU), keyboard/position entry module (KBD/PEM) and the interface circuit card assembly (I/F CCA) are unique to the four automation system configurations.

(2). Functional Flow. The functional flow of the DBRITE system is diagramed in Figure 3-2. The following paragraphs provide the sequential flow of data through the system with a brief description of the unit functions. Reference paragraphs 31 and 33 for more information and illustrations.

c. DSC Cabinet. The primary functions of the cabinet are to accommodate the units identified in Table 3-1, include the EMI requirements for class A3 equipment (MIL-STD-461B) and serve as a maintenance/monitor station with built-in-test (BIT) diagnostics.

(1). Automation System Connection (ASC) Panel. The panel provides the physical connection between the internal cabinet harnesses and the external cables of the radar, beacon, automation system and DBRITE tower equipment. There are four configurations of the ASC panel to accommodate the four type of automation systems. Each ASC panel provides matching connectors for a specific automation system and BNC connectors for the radar cables. Reference paragraph 31 and 33 for more information and illustrations.

(2). Digital Scan Converter (DSC) Unit. The DSC cabinet can accommodate up to three DSC units. Each DSC unit is connected via

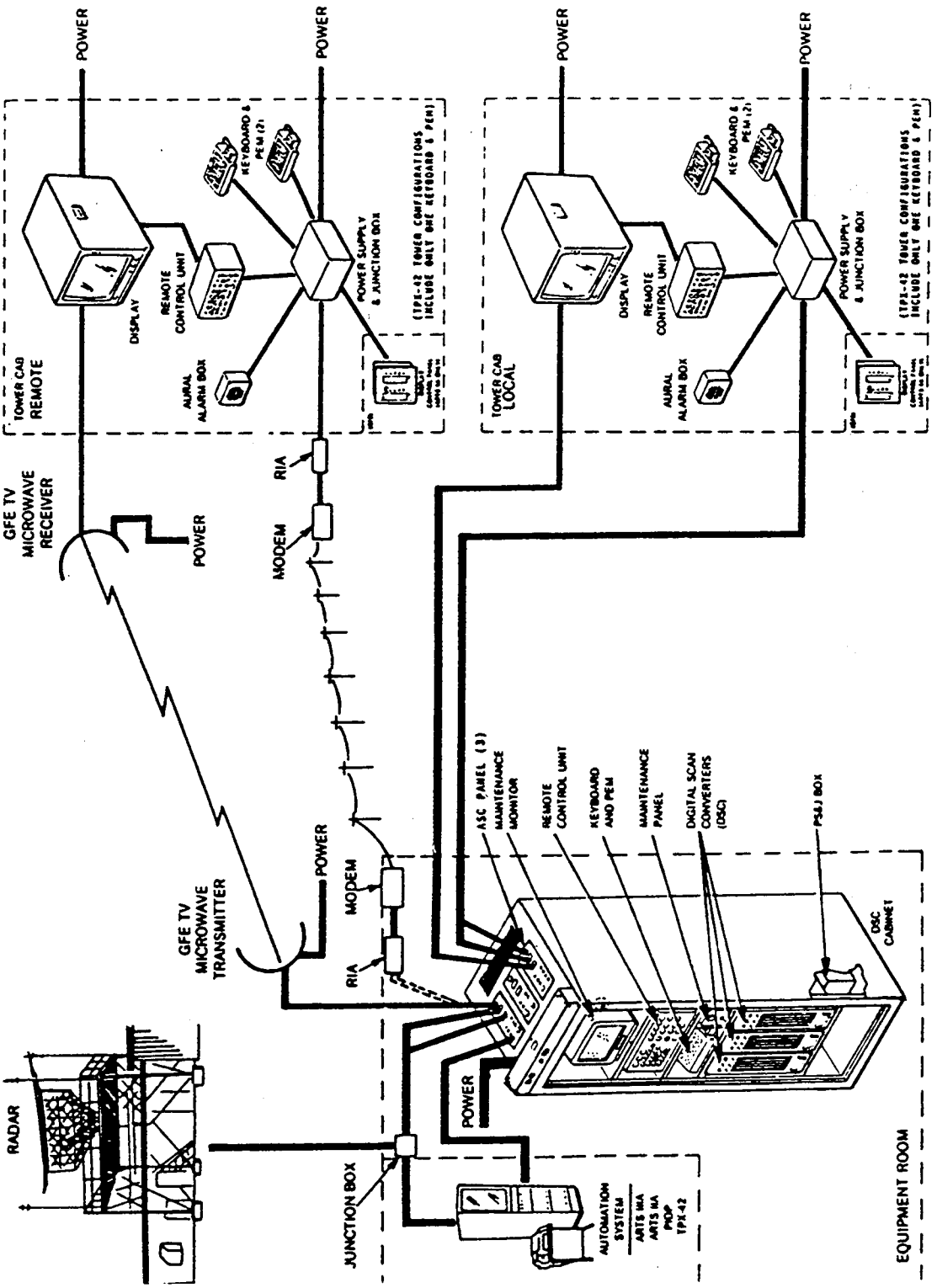


FIGURE 3-1. DBRITE SYSTEM

TABLE 3-1. DBRITE UNITS

DBRITE UNITS	FAA Type No.
EQUIPMENT ROOM	
DSC CABINET	FA-10226
ASC PANELS	
ASC PANEL (ARTS IIA)	FA-10222-2
ASC PANEL (ARTS IIIA)	FA-10223-2
ASC PANEL (PIDP)	FA-10221-2
ASC PANEL (TPX-42)	FA-10224-2
MAINTENANCE MONITOR	N/A
RCU	
RCU (ARTS IIA)	FA-10222-3
RCU (ARTS IIIA)	FA-10223-3
RCU (PIDP/TPX-42)	FA-10221-3
KBD/PEM	
KBD/PEM (ARTS IIA)	FA-10222-4
KBD/PEM (ARTS IIIA)	FA-10223-4
KBD/PEM (PIDP)	FA-10221-4
KBD/PEM (TPX-42)	FA-10224-4
MAINTENANCE PANEL	N/A
DSC UNIT	
DSC UNIT (ARTS IIA)	FA-10222-1
DSC UNIT (ARTS IIIA)	FA-10223-1
DSC UNIT (PIDP)	FA-10221-1
DSC UNIT (TPX-42)	FA-10224-1
PS&J BOX	FA-10229

TABLE 3-1. DBRITE UNITS (CON'T)

DBRITE UNITS	FAA TYPE NO.
TOWER CAB	
DBRITE DISPLAY	FA-10225
RCU	
RCU (ARTS IIA)	FA-10222-3
RCU (ARTS IIIA)	FA-10223-3
RCU (PIDP/TPX-42)	FA-10221-3
KBD/PEM (*)	
KBD/PEM (ARTS IIA)	FA-10222-4
KBD/PEM (ARTS IIIA)	FA-10223-4
KBD/PEM (PIDP)	FA-10221-4
KBD/PEM (TPX-42)	FA-10224-4
PS&J BOX	FA-10228
AURAL ALARM BOX	FA-10227
REMOTE INTERFACE ADAPTER	FA-10228-1

(*) MAXIMUM OF TWO (2) KBD/PEM UNITS PER DSC UNIT.

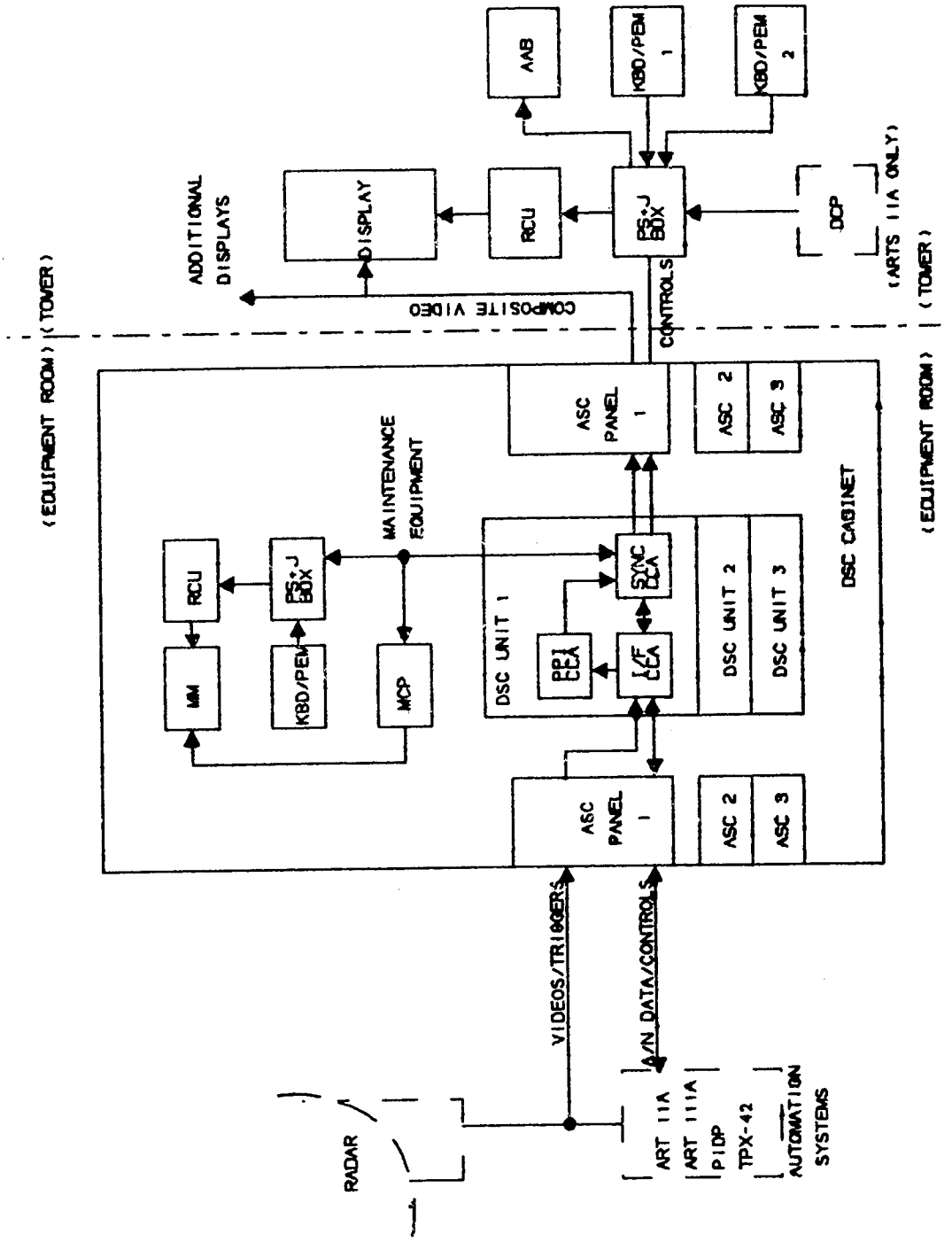


FIGURE 3-2. DBRITE FUNCTIONAL FLOW

intra-cabinet cabling to a specific ASC panel at the top of the cabinet. The units perform independently and will feed different facilities or large facilities requring several display units. A DSC unit contains either three or four circuit card assemblies (CCA). The basic functions of the DSC unit are to:

- Nonadditively, combine the external inputs (i.e., normal radar video, MTI video, external analog maps, ACP/ARP, pre-trigger, etc.), automation system data (i.e., alpha/numerics, beacon) and DBRITE produced data (i.e., internal maps, compass rose, range marks) into a composite video output for local and remote displays.

- Process controller entries from the RCU, the KBD/PEM and ARTS IIA display control panel (DCP).

- Produce and store data allowing individual display functions to be selected.

- Provide on-line maintenance functions.

A DSC unit consists of one or two automation system I/F CCA(s), a plan position indicator (PPI) CCA and a synthetic (SYN) CCA. Each DSC unit can support four tower display units and two KBD/PEM units. The DSC unit also incorporates BIT features for both on-line and off-line diagnostics. The on-line BIT continually checks DBRITE hardware (except maintenance equipment) including satellite tower equipment. An operational status symbol, which can be relocated, is continually presented on the tower displays when no errors are detected. When a fault is detected, an error message appears on the displays. If possible, the system will continue to operate. Additional errors are accumulated off-screen, but are not displayed until the first error has been erased. The off-line diagnostics are available to assist in isolating faults to an LRU. The tests are controlled from the cabinet maintenance equipment which can select any one of the DSC units for testing. The maintenance display can monitor any one of the DSCs without affecting air traffic operations.

(a). Interface Circuit Card Assembly (I/F CCA). The DBRITE I/F CCA is unique for each type of automation system. It communicates with the automation system to control the exchange and formatting of data between the DBRITE and the automation system. A microprocessor is used in the I/F CCA to convert the different automation system formats into a common data format used throughout the DBRITE. The ARTS IIA and PIDP configurations require only one board, while the ARTS IIIA and TPX-42 versions require two boards. The I/F CCA also receives the analog radar (normal, and moving target indicator (MTI)), beacon, and external map videos and converts these inputs to digital data for storage on the PPI CCA.

(b). Planned Position Indicator Circuit Card Assembly

(PPI CCA). The PPI CCA stores the digital data from the I/F CCA. Data is stored in memory planes representing the display screen pixels. The PPI CCA is common to all DBRITE system configurations.

(c). Synthetic Circuit Card Assembly (SYN CCA). The SYN CCA reads and arranges data from numerous memory planes (i.e., video, A/N data, maps, range rings, compass rose, etc.) to produce a composite video output. A microprocessor is used for formatting and control. The SYN CCA also performs the calculations for pixel starting addresses, vector lengths and character sizes. All DBRITE configurations have identical SYN CCAs. The functional flow of composite video is from the DSC unit, through the ASC panel and to the tower display unit. Control and BIT data follows a similar path, but is routed to/from the tower PS&J box.

(3). Maintenance Equipment. The maintenance equipment in the DSC cabinet is comprised of a maintenance control panel, a display monitor and a duplicate set of DBRITE tower equipment (PS&J box, KBD/PEM, and RCU). Functions of the PS&J box, KBD/PEM and RCU are discussed under the tower equipment.

(a). Maintenance Control Panel (MCP). The panel allows the selection of video from a particular DSC unit to be displayed on the maintenance monitor. The MCP also enables the LOCAL/REMOTE switch on the DSC control panel to select operating control from either the tower RCU (REMOTE) or the maintenance room RCU (LOCAL). The off-line BIT diagnostics are also controlled from the MCP.

(b). Maintenance Monitor (MM). The MM is a twelve inch commercial television used for viewing on-line video and diagnostics during maintenance activities. The respective DSC video viewed is selected at the MCP.

d. Tower Cab Equipment. Table 3-1, Figure 3-1 and Figure 3-2 respectively identify the units, illustrates a typical DBRITE layout and the flow of data through the DBRITE hardware in the ATCT.

(1). Power Supply and Junction (PS&J) Box. The PS&J box is common for all DBRITE models, including the DSC cabinet unit. It serves as a single dc power source and a data interconnection point for the RCU, KBD/PEM, AAB and the ARTS IIA DCP. A circuit card is contained in the box to handle the interfacing data.

(2). Remote Control Unit (RCU). The RCU provides controls for the selection of display parameters: video gains, video decentering, video gates, display ranges, A/N sizes, range mark sizes and offsets, brightness and contrast, maps and A/N presentation formats such as inhibit, filter and quick-look switches. A single RCU supports each DSC unit which in turn can support up to four daisy-chained display units. The presentation on the daisy-chained displays is under the control of this single RCU. While each display has its own local brightness and

contrast control, the RCU can also provide remote brightness and contrast control of a single display or the first display in a daisy-chained group. Another DSC unit, with an additional RCU, is required if two display units require separate RCU controls. Each DSC cabinet contains a RCU to support maintenance functions. There are three configurations of the RCU: ARTS IIA, ARTS IIIA, and PIDP/TPX-42. The units are very similar with only a few control and indicator differences (See paragraph 31, Physical Descriptions). The units contain a logic CCA with data and control interfaces to the PS&J box and tower display unit.

(3). Display Unit. The tower display unit is a high brightness, high contrast, 945-line TV monitor designed for viewing DSC composite video, EIA RS-343A, in a 6000 foot-candle ambient light environment. The square CRT displays the radar video in a circular format. The square corners can contain selected A/N information (i.e. system data, preview areas, tab lists) in a display coordinate format. The flow diagram in Figure 3-2 shows the display control/selection path through the RCU and the video path from the DSC cabinet. Four daisy-chained displays can be supported by each DSC unit; however, identical presentations will be displayed on each unit. Separate DSC units are required if different display data is required on the displays.

(4). Keyboard/Position Entry Module (KBD/PEM). The KBD/PEM is commonly referred to as the data entry set (DES). Each DSC unit supports a maximum of two KBD/PEMs. The KBD functions as the controllers entry device; while the PEM serves as a joystick for display positioning. Two KBD/PEMs can be operated simultaneously and independently. The symbology and configuration of the keys are compatible with the current automation systems. Each PEM must be provided a unique symbol by the automation system. The KBD/PEMs connect to the PS&J box for power and data routing back to the DSC cabinet.

(5). Aural Alarm Box (AAB). The AAB functions only to regenerate the alarm tone produced by an automation system. The alarm tone is 450Hz interrupted at a 5Hz rate. The alarm/reset function is controlled from the host automation system through the DSC unit. An alarm box is supplied with each DSC unit in the system.

31. PHYSICAL DESCRIPTION. The DSC cabinet equipment and typical tower equipment location is illustrated in Figure 3-3. Table 3-2 is a listing of the DBRITE physical characteristics. The RCUs, PS&J boxes and KBD/PEMs are identical in the DSC cabinet and tower cabs. The following paragraphs provide a brief physical description of each unit. Reference paragraph 30 (Functional Description) and paragraph 33 (Interfaces) for additional information on these units.

a. DSC Cabinet. The cabinet, as shown in Figure 3-4A, can accommodate a maximum of three DSC units. Doors are mounted on both the

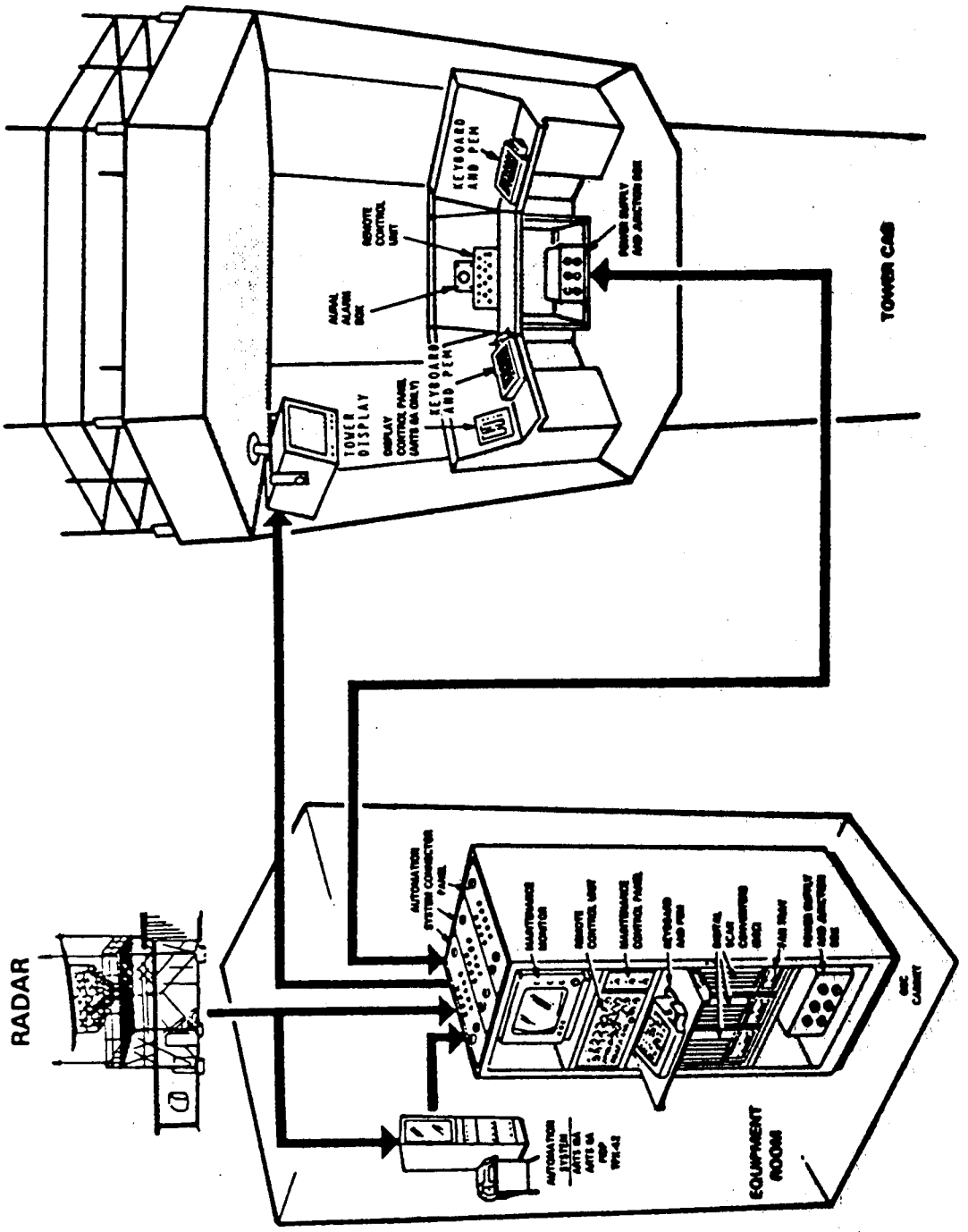


FIGURE 3-3. DERITE SYSTEM LAYOUT

TABLE 3-2. DBRITE PHYSICAL CHARACTERISTICS

UNIT	DIMENSIONS (1) (inches)			WEIGHT (est)	POWER DATA			HEAT LOSS	RESULTS
	H	W	D	LBS	VOLTS	AMPS	VA	BTU/HR	
DSC CABINET	75.00	24.00	30.00	700	115	6.0	690	2314 1839 1364	3 DSC UNITS 2 DSC UNITS 1 DSC UNIT
PS&J BOX	8.00	13.00	13.00	26	115	1.2	138	130	(4), (5)
RCU	8.00	16.00	4.63	17				55	(3), (4)
TOWER DISPLAY	19.00	18.5	27.00	150	115	3.39	390	935	
KEYBOARD & PEM	4.00	13.3	9.25	11			45		(3), (4)
AURAL ALARM	6.62	6.25	3.50	4					
MAINT. MONITOR	12.00	11.2	12.8	16	115	1.3	150	350	(2)

(1) Add 6 inches to each dimension for shipping.
(2) Power derived from DSC cabinet.
(3) When used in tower, power derived from PS&J box.
(4) When used in DSC cabinet, power derived from DSC cabinet.
(5) When used in tower, power data as shown

PHYSICAL CHARACTERISTICS			
W(in)	H(in)	D(in)	WT(#)
24.00	75.00	30.00	600

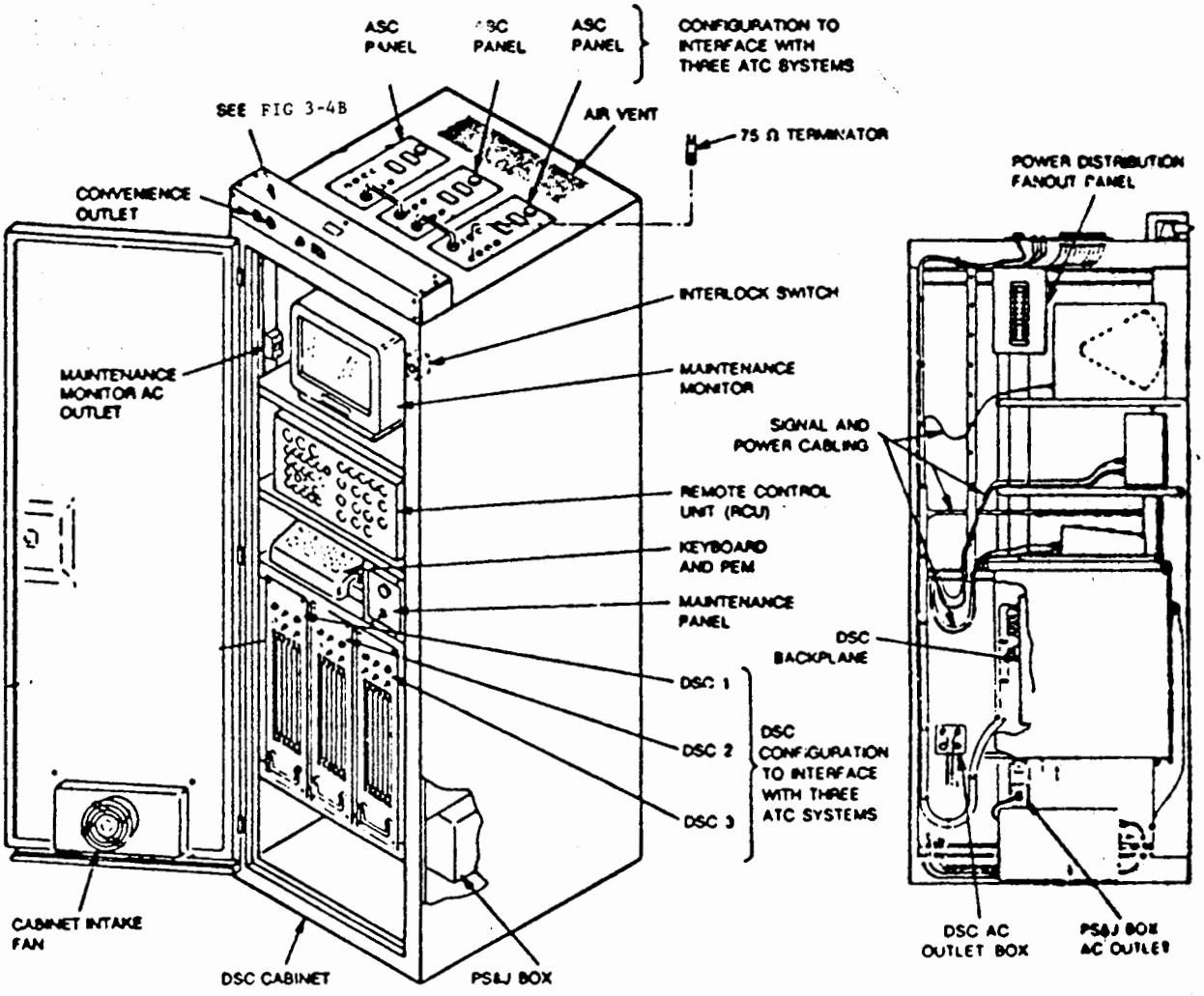


FIGURE 3-4A. DIGITIAL SCAN CONVERTER (DSC) CABINET

front and rear of the cabinet. Space to open the rear door is not required since the cabinet was designed to perform all operations and maintenance through the front door. The maintenance monitor and RCU are located at comfortable working heights based on human engineering standards. The KBD/PEM is mounted on a slide-out shelf for convenient stand-up maintenance operations. Located under the shelf are the mounting spaces and attachments for the three DSC units. The bottom shelf of the cabinet contains the PS&J box which is located behind the small door and ventilation fans. Air is drawn through the front door filters by a fan, directed across the DSC units by buffer fans and exhaust at the top of the cabinet. The entire cabinet is EMI shielded. Figure 3-4B shows the top of the cabinet with the ASC panels for cable connections, ventilation exhaust port, power filter and the conduit attachment location. Floor mounting holes in the base of the cabinet are also shown in Figure 3-4B. The Government is responsible for providing conduit power to the DSC cabinet for both the cabinet equipment and convenience outlet (See paragraph 33 and 71).

(1). Automation System Connector (ASC) Panel. The unique cable interfaces with each automation system requires a unique ASC panel as shown in Figure 3-5. A specific panel will adapt to the standard cable connectors of each automation system. An ASC panel is required in conjunction with each DSC unit. The panels are identical in size and interchangeable in location on top of the cabinet.

(2). Digital Scan Converter (DSC) Unit. The DSC unit in Figures 3-6 consists of a card cage capable of holding up to five CCAs, a control panel, two buffer fans, a backplane and an independent power supply. Mounting flanges on the front of the cage provide the necessary hardware to mount the DSC into the cabinet. The control panel contains four switches and two light emitting diode (LED) indicator lights. The cables to and from the ASC panel connect to the backplane. Each unit has a removable power supply and cooling fans. The estimated weight of each DSC unit is fifty (50) pounds. The number of CCAs in a DSC unit is automation system dependent. ARTS IIA and PIDP configurations use one I/F CCA, while the ARTS IIIA and TPX-42 configurations use two I/F CCAs. All DBRITE configurations use a common SYN CCA and PPI CCA.

b. Maintenance Equipment. The MCP, PS&J box, RCU, MM and KBD/PEM in the cabinet are used for maintenance support. The PS&J, RCU and KBD/PEM are identical to the tower units and are described under the tower equipment.

(1). Maintenance Control Panel (MCP). The MCP is illustrated in Figure 3-7. The panel contains a video select switch which connects the maintenance monitor for viewing any one of the video outputs from the DSC units. The advance BIT switch is a momentary toggle switch used to advance the off-line diagnostic testing.

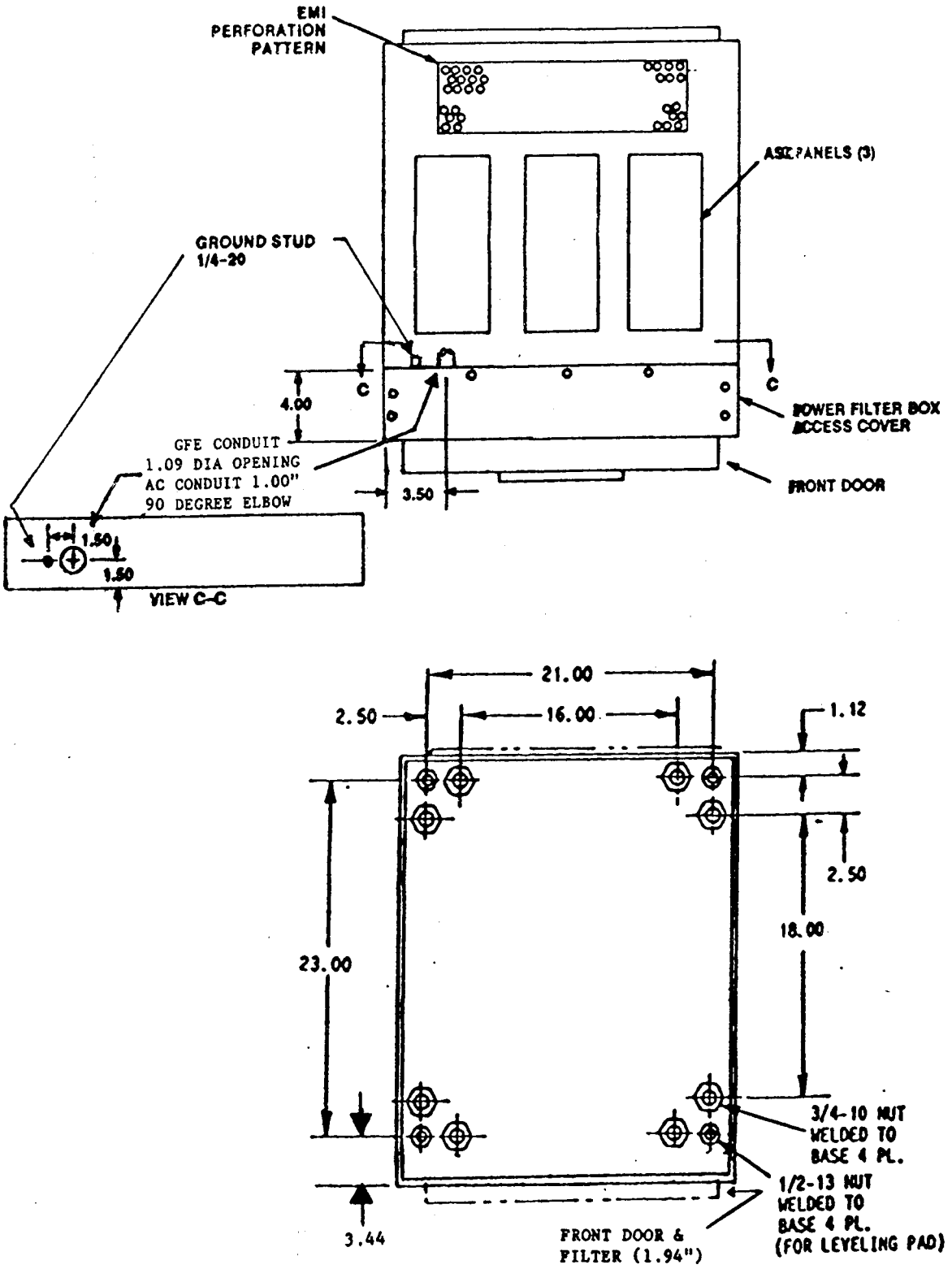
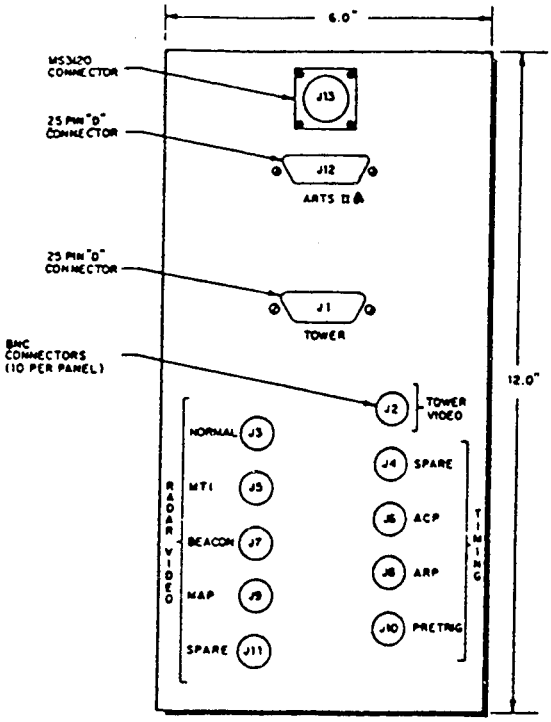
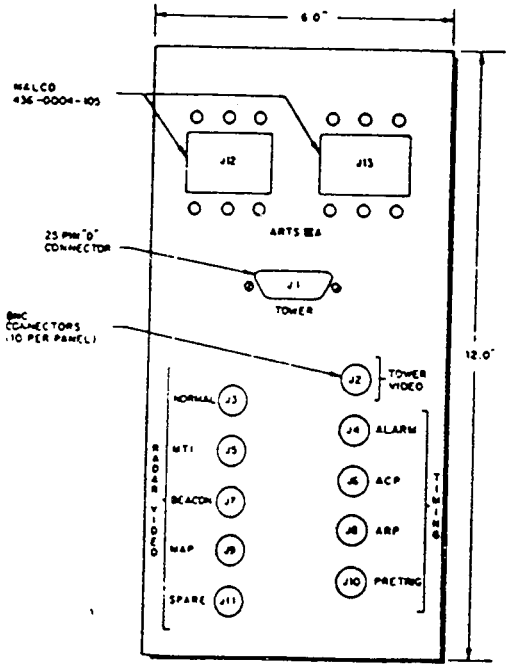


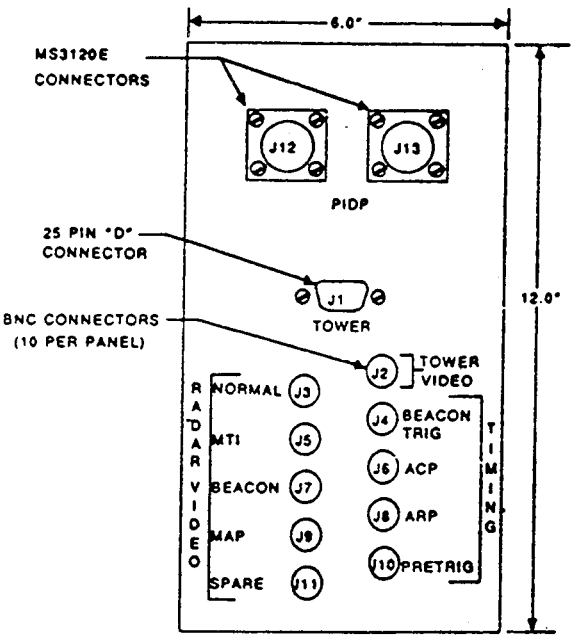
FIGURE 3-4B. DSC CABINET TOP & FLOOR MOUNTING VIEWS



ARTS IIA



ARTS IIIA



PIDP

FIGURE 3-5. AUTOMATION SYSTEM CONNECTOR (ASC) PANELS

PHYSICAL CHARACTERISTICS			
W(in)	H(in)	D(in)	WT(#)
6.25	24.19	18.9	50

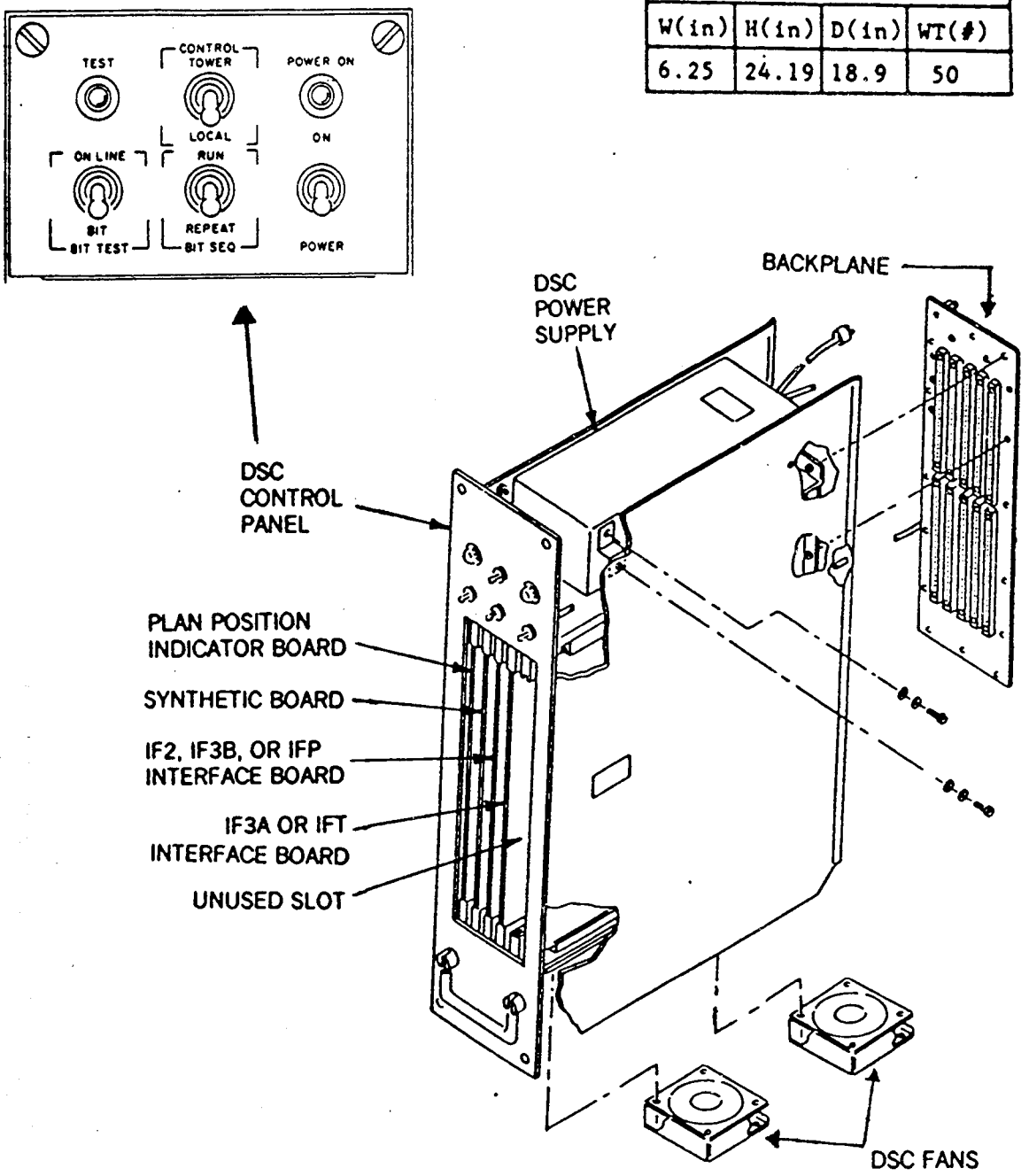


FIGURE 3-6. DIGITAL SCAN CONVERTER (DSC)

PHYSICAL CHARACTERISTICS			
H(in)	W(in)	D(in)	WT(#)
7.0	5.0	3.0	N/A

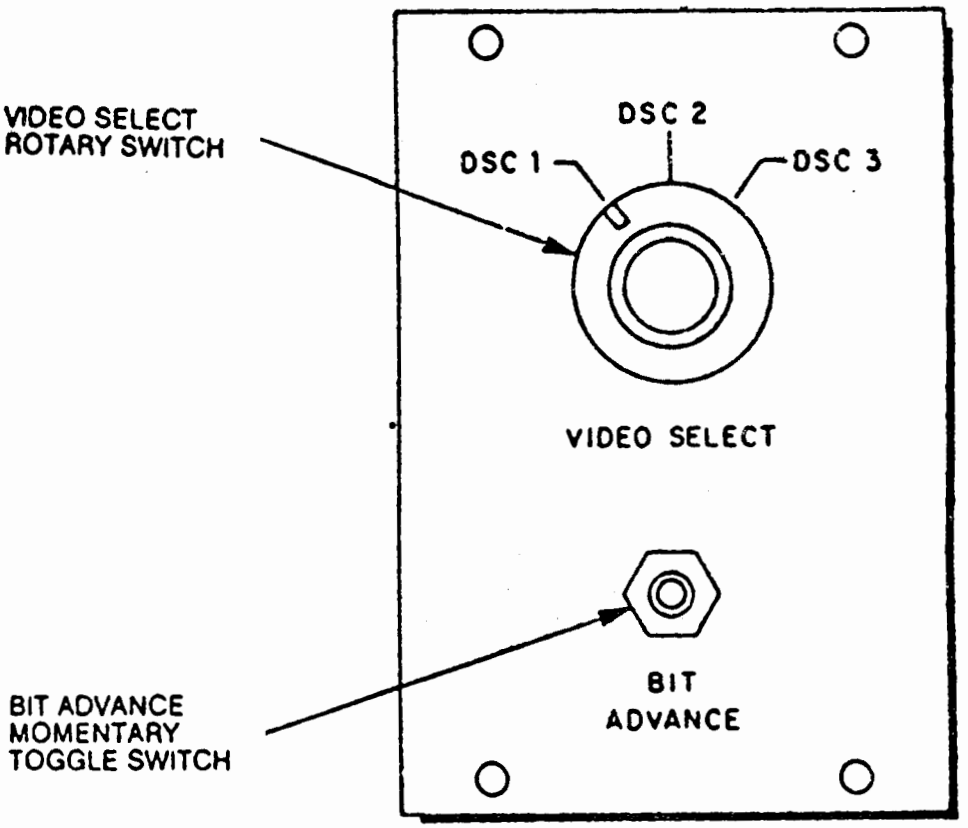


FIGURE 3-7. DSC MAINTENANCE CONTROL PANEL

(2). Maintenance Monitor (MM). The monitor for maintenance activities will be a commercially produced 15" television.

c. Tower Cab Equipment. Physical and power characteristics of the tower equipment are listed in Table 3-2. The following paragraphs provide a description of each unit.

(1). Power Supply & Junction Box. The PS&J box in Figures 3-8A and 3-8B contain a power supply, an AC power filter box, DSC cabinet interfacing connector, a cooling fan and a multi-layer CCA. The box is EMI shielded and is a free standing unit.

(2). Remote Control Unit. A typical RCU is shown in Figure 3-9A. The front panels in Figure 3-9B differ slightly depending on which automation system is interfaced. The panel has adjustable back-lighting for use in low ambient light areas and is symbolized with descriptive nomenclature to identify the control functions. The RCU contains a four-layer CCA measuring 6 x 9 inches. RCU connections to the PS&J box and tower displays are made through three connectors. These connectors have the option of being located on either the rear or left side of the box. This allows mounting in either a stand-up or laydown position. The RCU can also be flush mounted with a plate (Figure 3-9C) provided as part of the DBRITE equipment.

NOTE: Sites requiring the plate must prepare a console cutout per Figure 3-9C prior to arrival of the DBRITE. Certain operational situations will require on-site FAA and contractor cooperation for completion.

(3). Display Unit. The tower display unit, Figure 3-10A, is a high brightness, high contrast, 945-line TV monitor. It is designed for operation in a 6000 foot-candle ambient light environment. The screen is 14.5 X 14.5 inches square with 876 x 876 pixel resolution. The CRT and EMI requirements have increased the weight of the display to 150 pounds approximately. The removal of subassemblies from the display unit, Figure 3-10B, will reduce the weight to approximately 100 pounds to assist in ceiling installation or removal tasks. Handles are built into the display cabinet to assist in any maintenance or operational moving. The display can be mounted in four ways: console mount, fixed desk mount, swivel desk mount and ceiling trunnion mount. The trunnion bracket is provided and will rotate 340 degrees in azimuth and tilt 30 degrees in elevation. The trunnion bracket will attach to the current facility ceiling bracket which is a one-inch (1") thread pipe (Figure 3-10C).

NOTE: Sites must ensure that the ceiling brackets will support the new, heavier DBRITE display (approximately 150 lbs).

(4). Keyboard and Position Entry Module (KBD/PEM). A KBD/PEM is illustrated in Figure 3-11A. There are two KBD/PEMs supplied with each DSC unit (TPX-42 model has one). The symbology and configuration of

PHYSICAL CHARACTERISTICS				MIN. CABLE BEND RADIUS
H(in)	W(in)	D(in)	WT(#)	R(in)
8.0	13.0	13.0	26.0	7.0

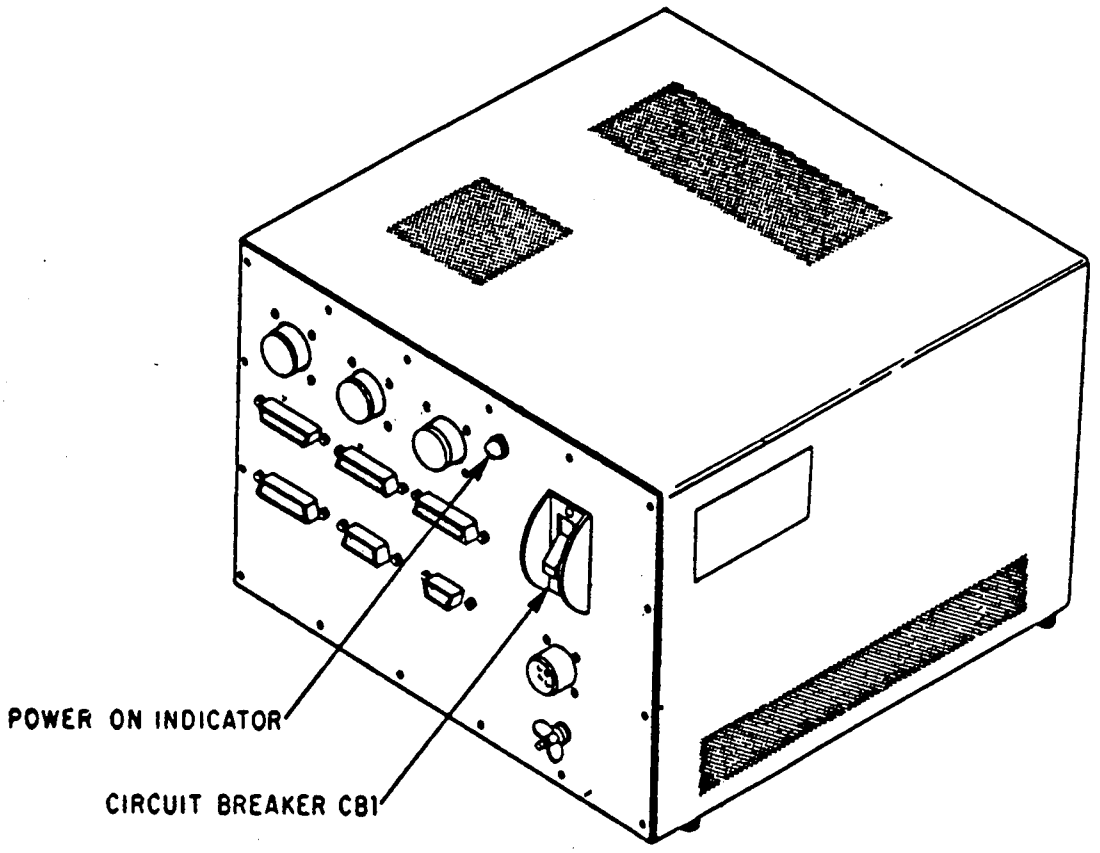
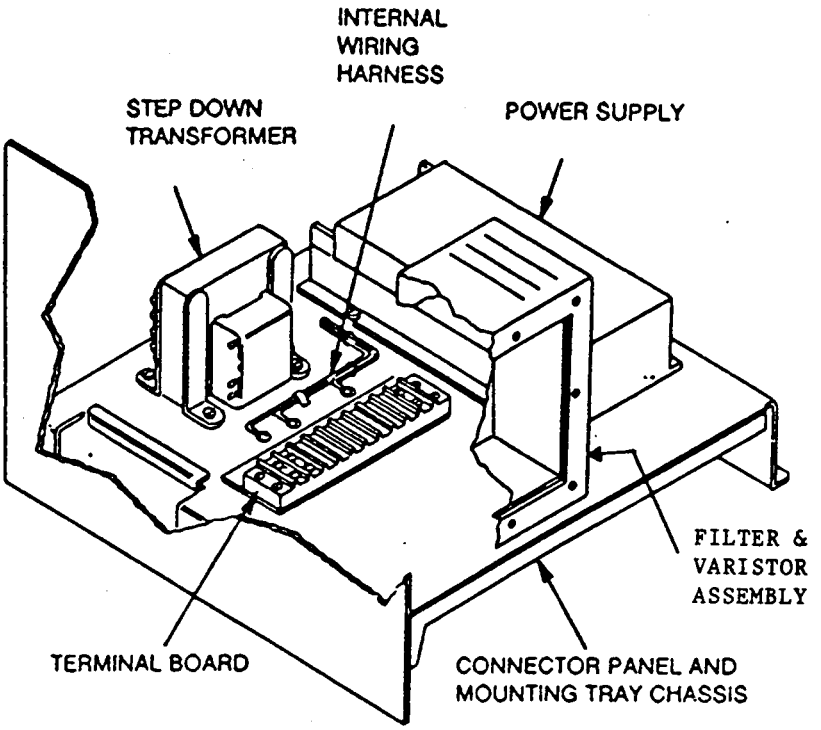


FIGURE 3-8A. POWER SUPPLY & JUNCTION (PS&J) BOX



NOTE: PS&J CCA MOUNTED BENEATH CHASSIS.
CHASSIS EASILY REMOVES FROM ENCLOSURE.

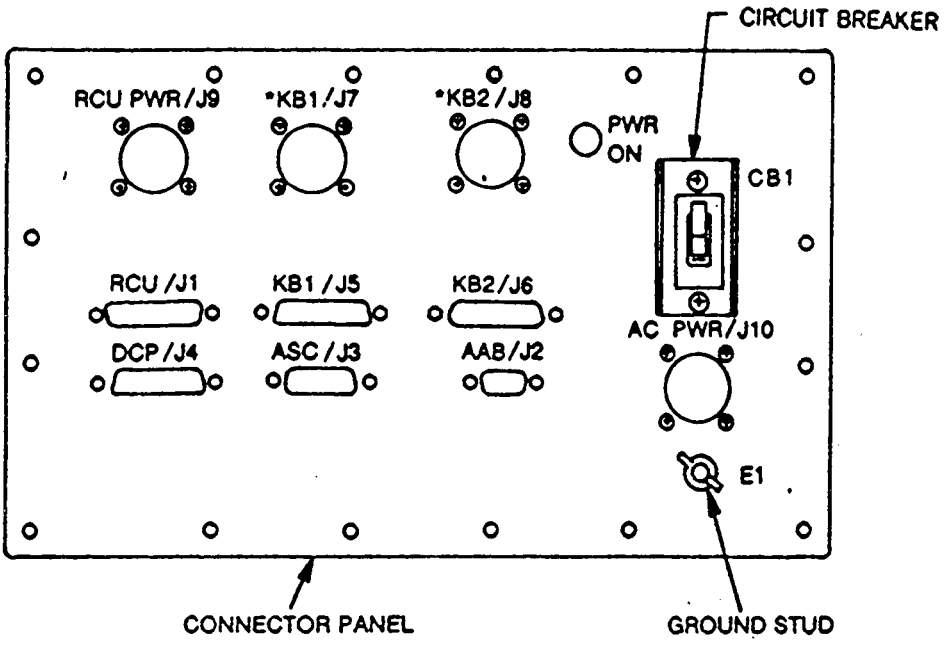


FIGURE 3-8B. POWER SUPPLY & JUNCTION (PS&J) BOX (INTERNAL)

PHYSICAL CHARACTERISTICS				MIN. CABLE BEND RADIUS
H(in)	W(in)	D(in)	WT(#)	R(in)
8.0	16.0	4.63	17	6.5

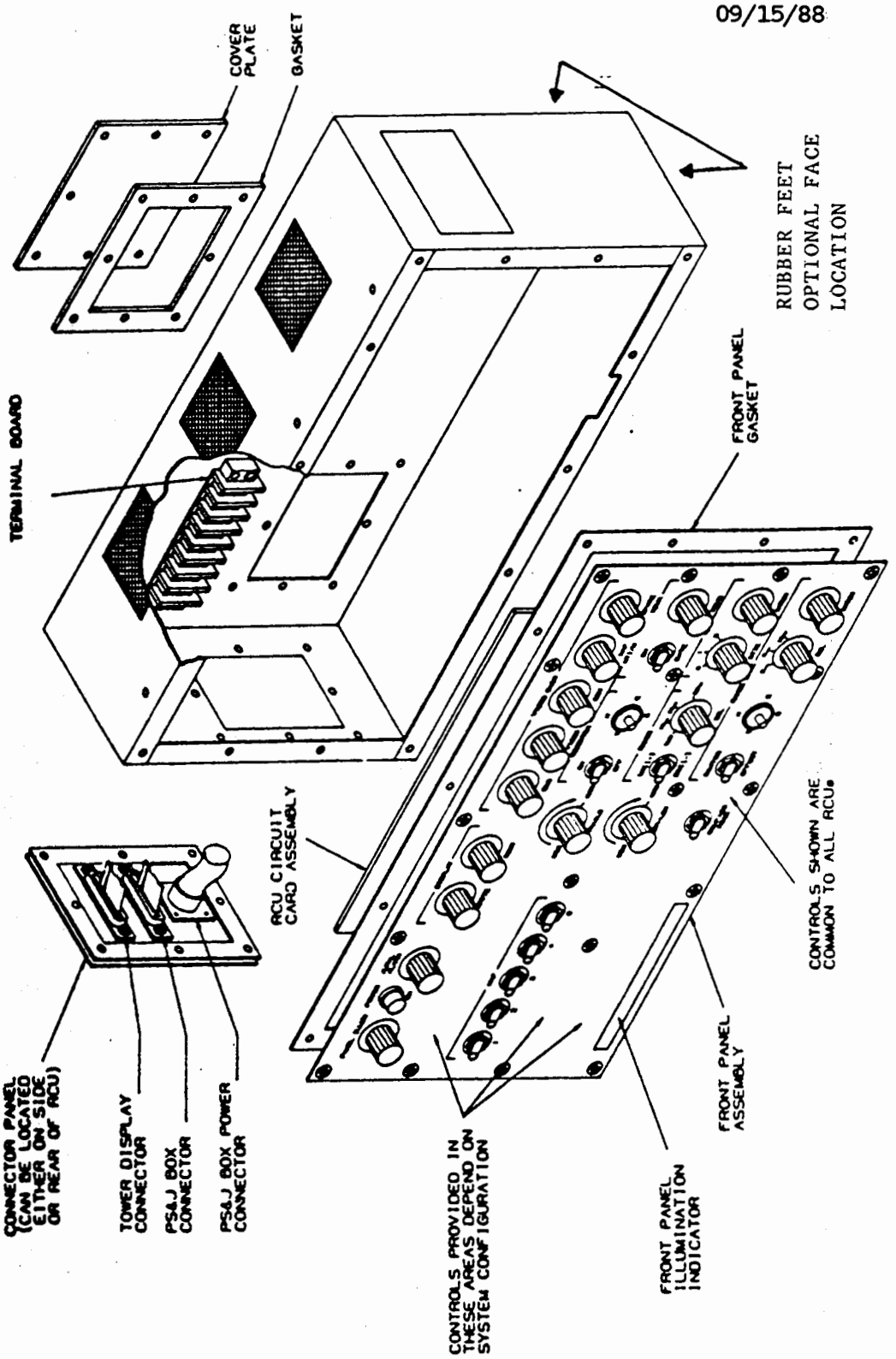
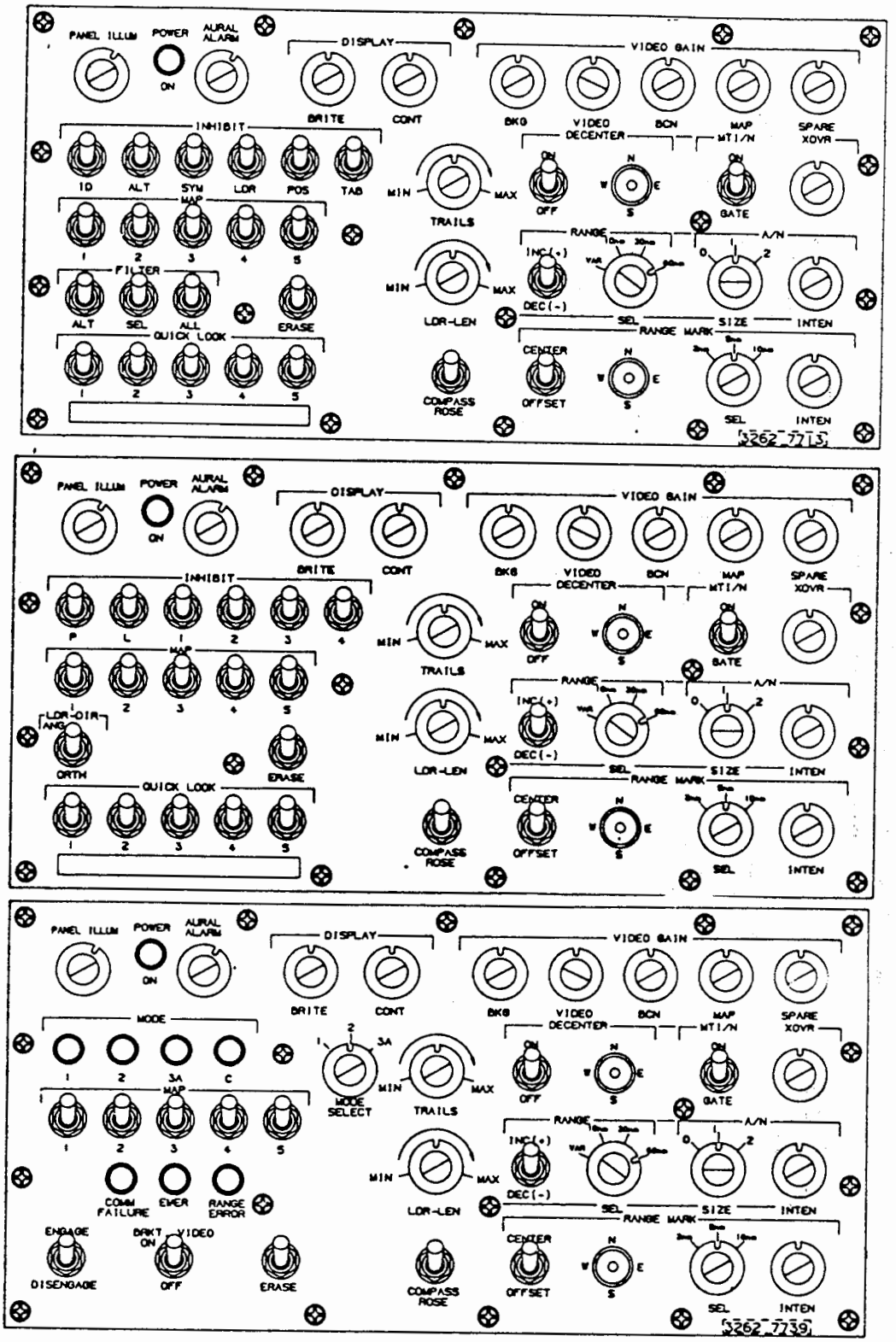


FIGURE 3-9A. REMOTE CONTROL UNIT (RCU)



ARTS IIA

ARTS IIIA

PIDP

PID

FIGURE 3-9B. REMOTE CONTROL UNIT PANELS

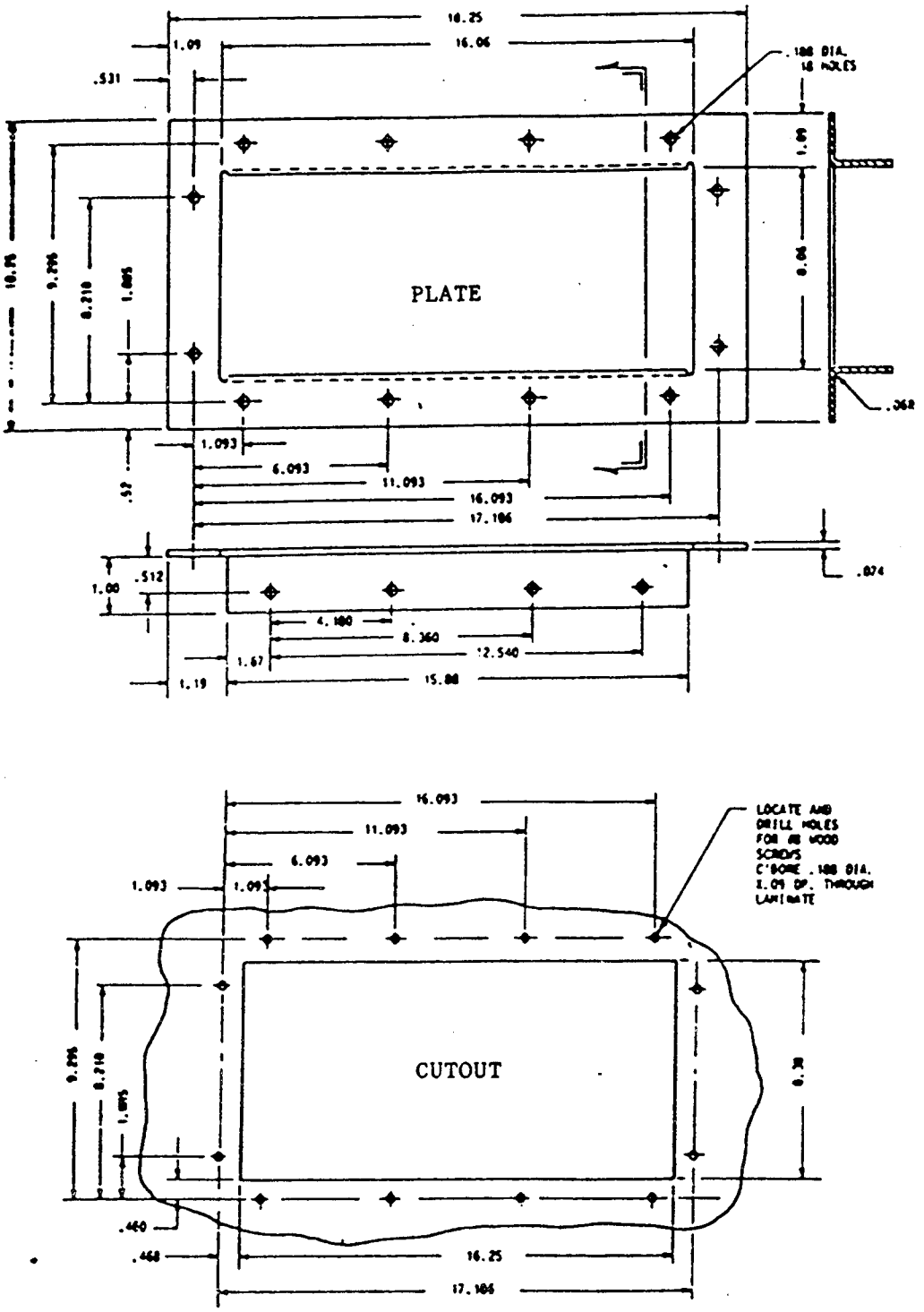


FIGURE 3-9C. RCU MOUNTING PLATE & CUTOUT

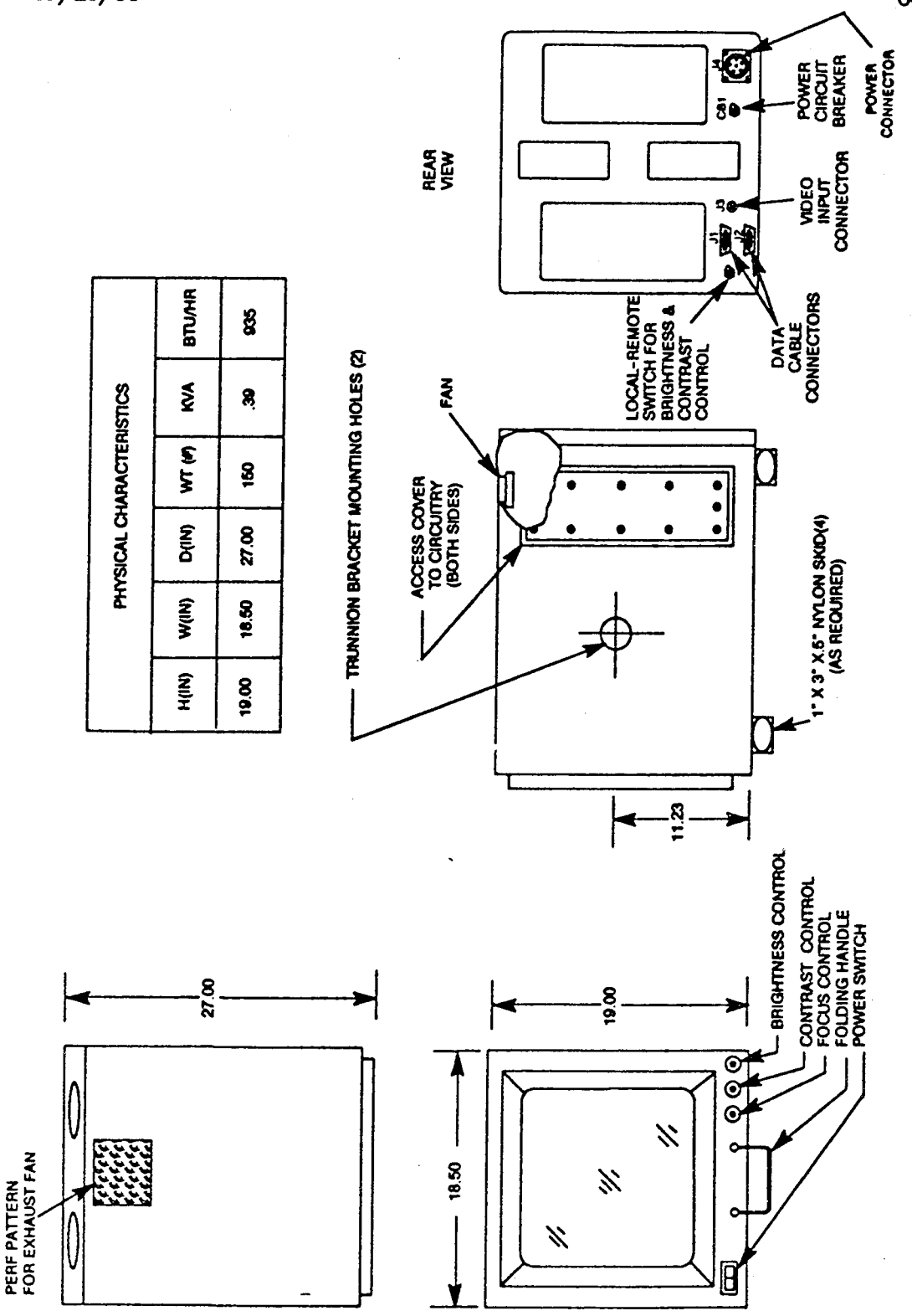


FIGURE 3-10A. DISPLAY UNIT

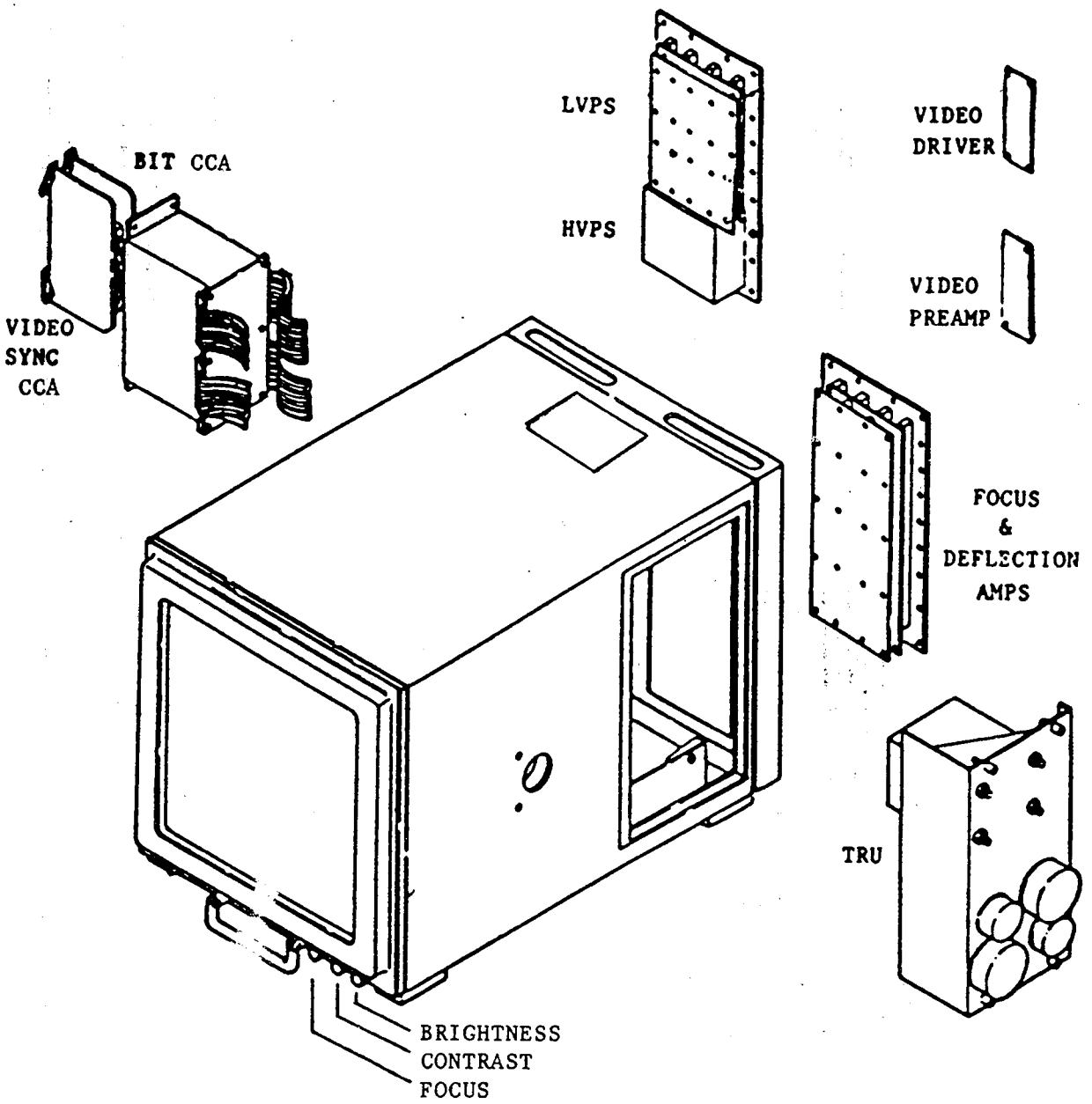
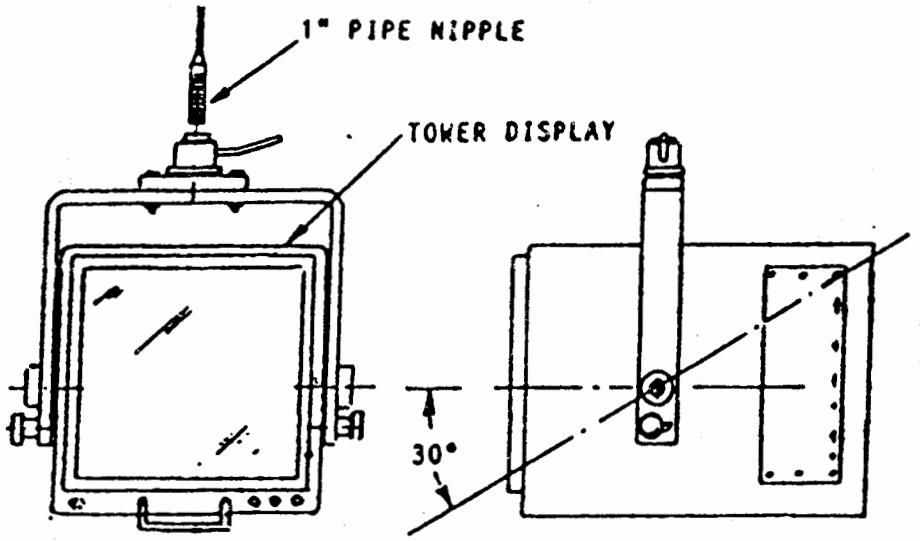
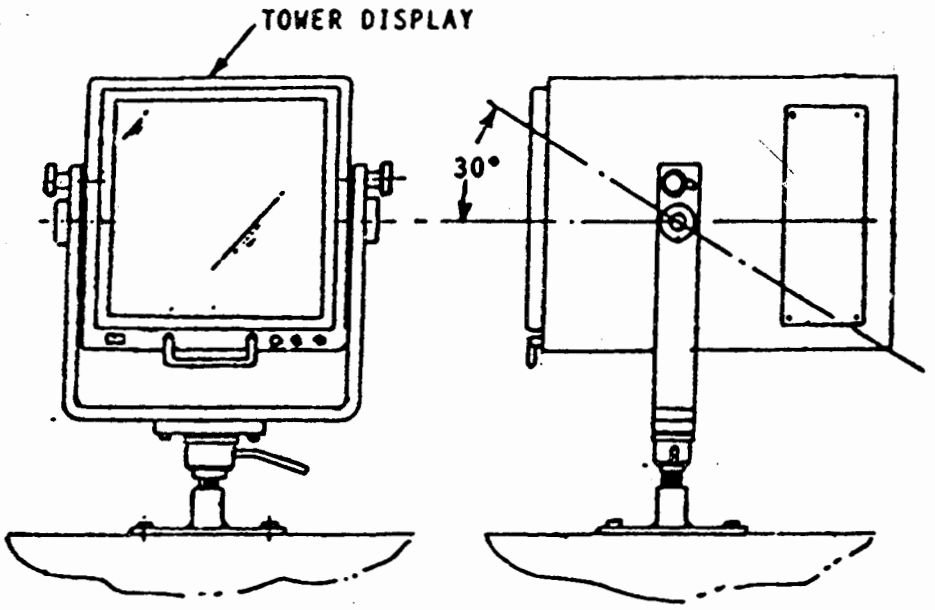


FIGURE 3-10B. DISPLAY UNIT BREAKDOWN



(CEILING MOUNTING)



(TABLE MOUNTING)

FIGURE 3-10C. DISPLAY UNIT MOUNTING

PHYSICAL CHARACTERISTICS				MIN. CABLE BEND RADIUS
H(in)	W(in)	D(in)	WT(#)	R(in)
4.0	13.3	9.25	11.0	3 options

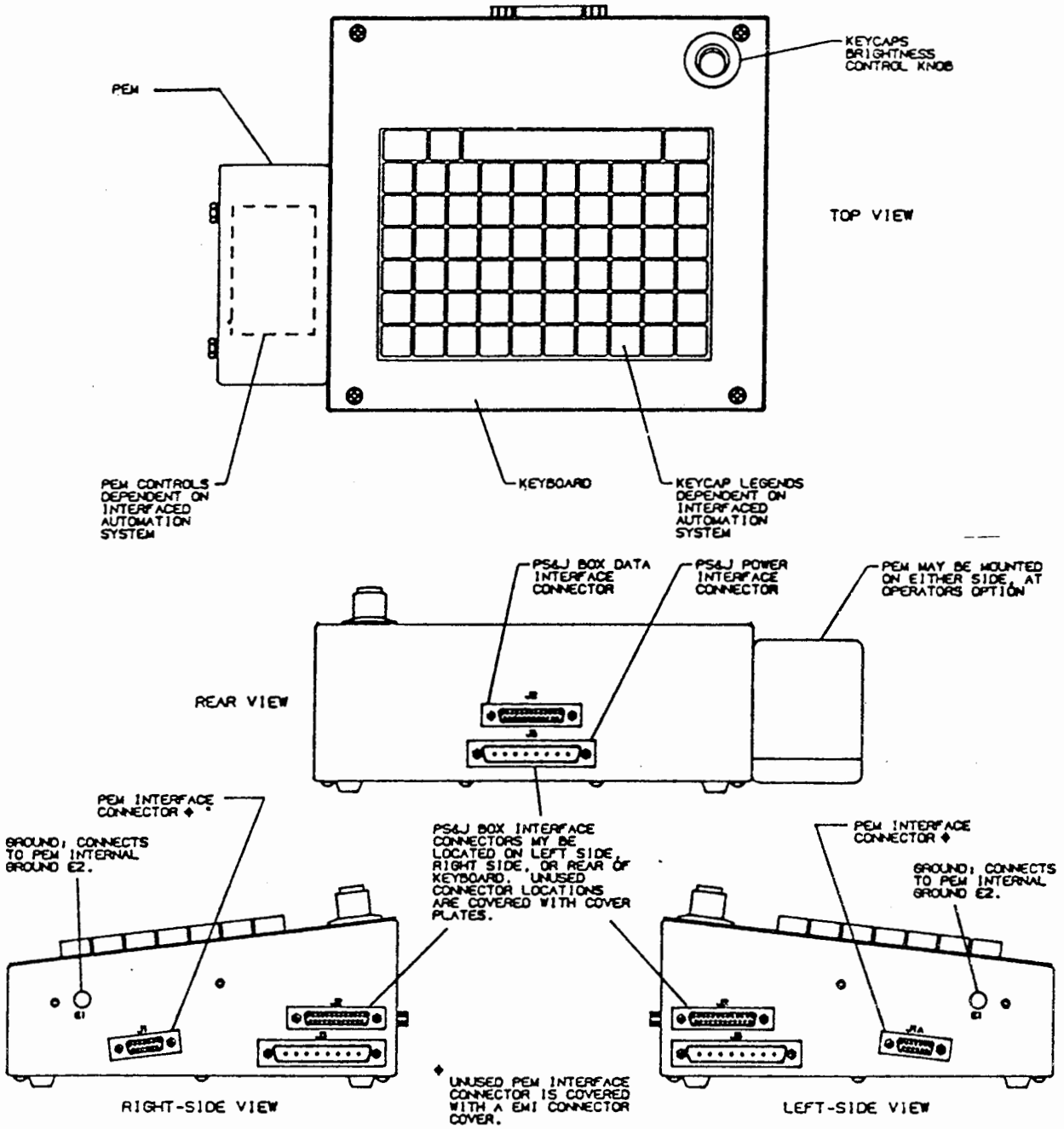


FIGURE 3-11A. KEYBOARD/POSITION ENTRY MODULE

each DSC unit (TPX-42 model has one). The symbology and configuration of the keys are compatible with the current automation systems. The KBD CCA contains key switch encoding logic. The KBD switches are soldered to a glass epoxy printed wiring board.

Figure 3-11B displays the PEMs for ARTS IIA/IIIA and PIDP. The ARTS PEM contains an entry switch and a pressure sensitive joystick; while the PIDP PEM has additional sweep, cursor and range strobe switches. The PEM can be mounted directly to either side of the keyboard.

(5). Aural Alarm Box (AAB). The AAB in Figure 3-12 consists of only a speaker in a metal box. A volume control is mounted on the RCU with the power circuitry located in the PS&J box. The AAB can either be wall or surface mounted. Figure 3-12 also illustrates the cutout and dimensions required for surface mounting.

32. SYSTEM REQUIREMENTS.

a. Environmental Conditions.

Condition	Equipment
Temperature (Air Intake)	32 - 122 degrees Fahrenheit
Relative Humidity	10 - 95% non-condensing
Elevation	Sea level to 12,000 feet

b. Prime Power.

	Tower Equipment	Cabinet Equipment
Voltage	115 vac +10% -15%	115 vac +10% -15%
Phase	Single	Single
Frequency	50/60 Hz ±1 Hz	50/60 Hz ±1 Hz
Power	.551 Kva	.655 Kva

c. Electromagnetic Compatibility. The electromagnetic interference (EMI) requirement is per MIL-STD-461B for Type A3 equipment. Each individual tower unit (i.e., PS&J, RCU, KBD/PEM and display) is built per the EMI requirement. The DSC cabinet provides EMI coverage for the DSC units, commercial maintenance monitor and harnesses.

d. Reliability. The DBRITE Mean Time Between Failure (MTBF) will be no less then 3160 hours.

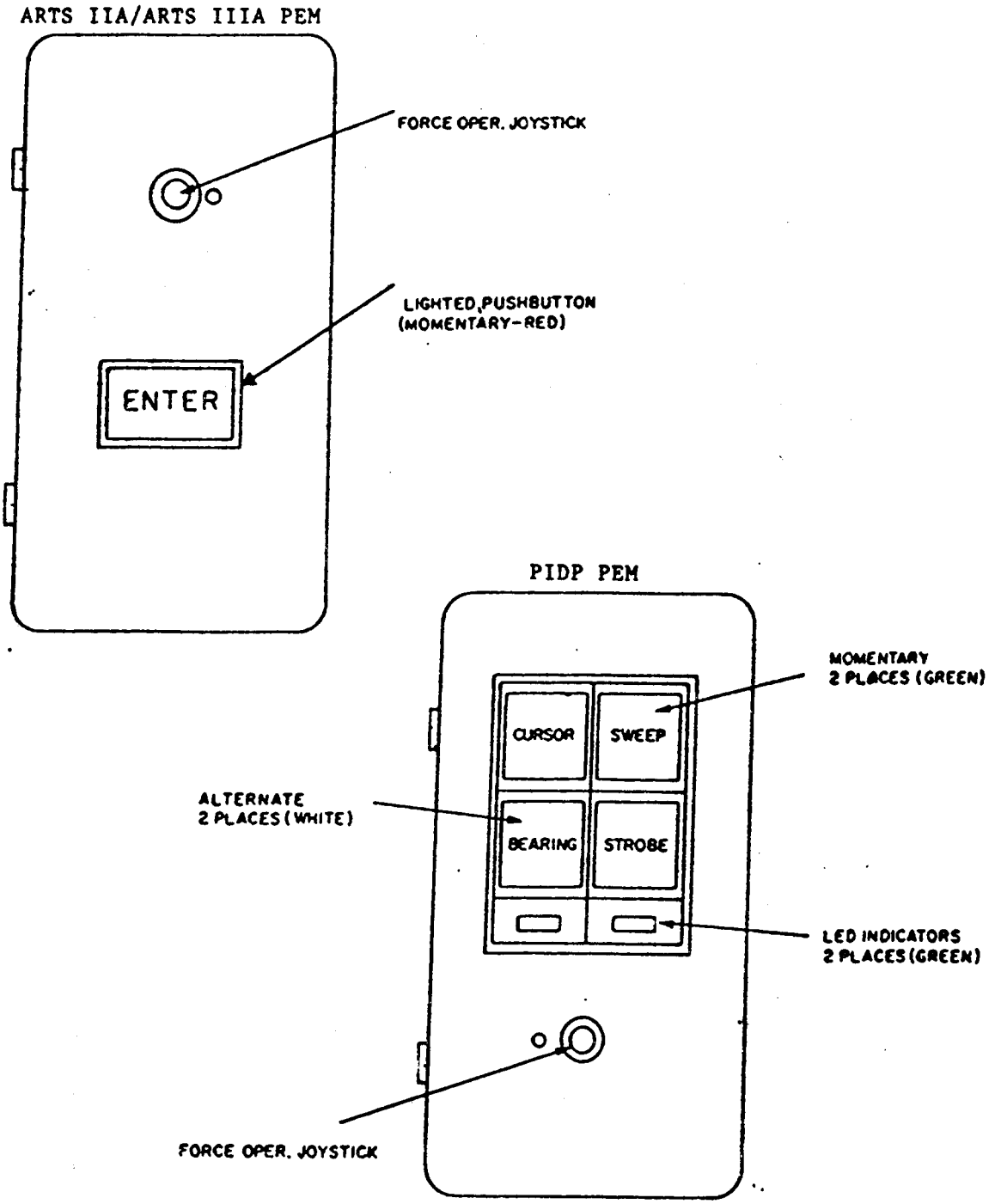
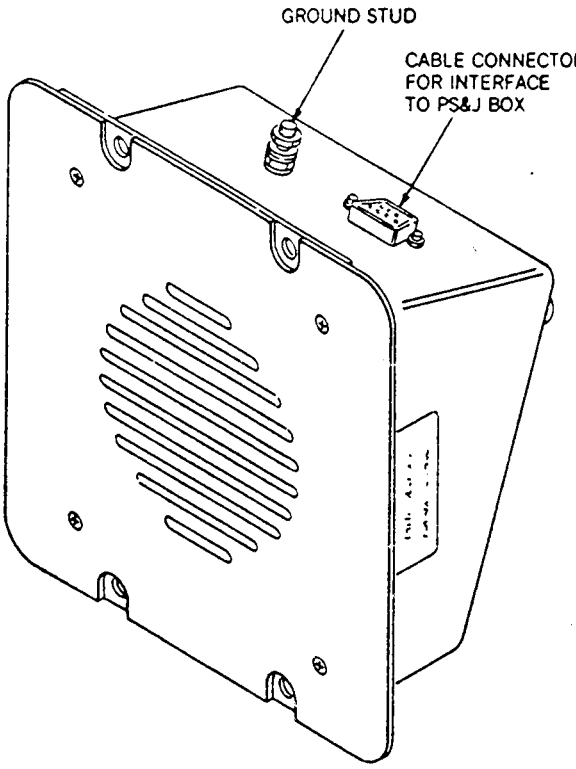


FIGURE 3-11B. POSITION ENTRY MODULES



PHYSICAL CHARACTERISTICS				MIN. CABLE BEND RADIUS
H(in)	W(in)	D(in)	WT(#)	R(in)
6.62	6.25	3.5	4	2.5

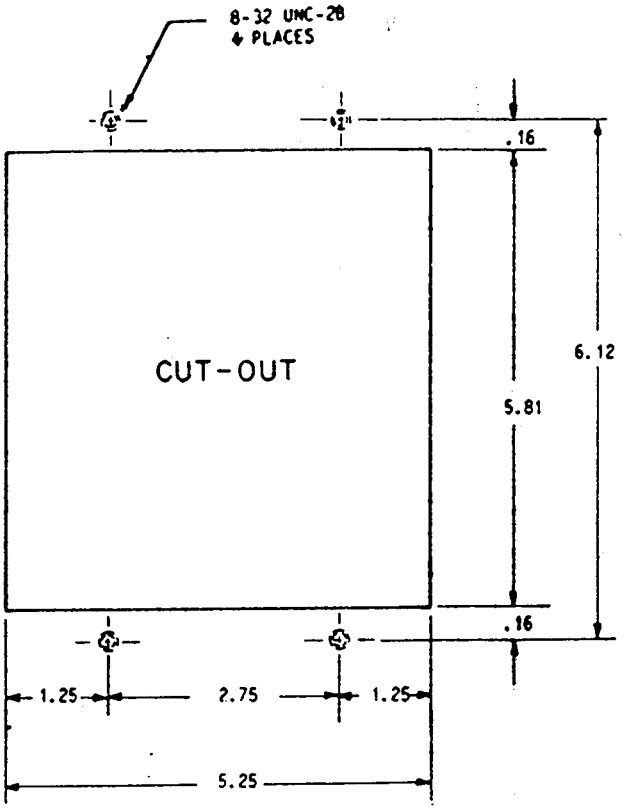


FIGURE 3-12. AURAL ALARM BOX (AAB) & CUTOUT

e. Maintainability. The Mean Time To Repair (MTTR) the DBRITE system is 30 minutes or less with a maximum corrective action not to exceed sixty minutes at the 90th percentile. Off-line preventive maintenance will be less than one hour per quarter. Total preventive maintenance will not exceed six hours per quarter.

f. Built-In-Test (BIT) Equipment. The DBRITE contains diagnostics capable of isolating 90% of all failures to a single LRU or 98% failure isolation to two LRUs.

g. Mapping. A DSC unit contains five video maps in ROM with any combination of maps selectable at the RCU. DBRITE also has the capability to interface and display existing external analog maps (See Figures 3-14A,B,C). However, selection of these external maps must be accomplished with existing map control boxes. DBRITE only provides selection of the internal ROM digital maps. The map video gain control on the DBRITE RCU simultaneously controls the intensity of both the internal and external maps. Regions/sites will determine the need for continued use of existing external maps. Early sites may be required to retain external mappers if the new internal maps are not prepared at the time of DBRITE delivery. The procedure to obtain maps will be the same as for the FA-8970 map plates currently used. Sites will not be capable or authorized to change maps at the facility. National Ocean Service (NOS) will incorporate site map data into the ROM and ship the map ROM directly to the requesting facility. Air traffic personnel should generate map requirements for their respective facilities and submit these requirements through ATO 259 to NOS at least four months prior to installation of DBRITEs at sites.

NOTE: Sites must specify DBRITE digital maps to avoid the generation of current FA-8970 map plates.

33. INTERFACES.

a. System Interfaces. Table 3-3 identifies the systems with which DBRITE was designed to operate. DBRITE will operate with other radar and beacon systems as long as signal characteristics are within the limits indicated in Table 3-4.

b. Signal Characteristic Interfaces. Table 3-4 and Table 3-5 associate the radar and automation systems, respectively, with the signal characteristics required for the DBRITE system.

c. Cable Interfaces. The DBRITE consist of both external cable interfaces to other systems and internal cable interfaces between the various DBRITE units. Figure 3-13 provides a simplified overview of the cables and identifies contractor and Government responsibility for furnishing and installing the cables. A contractor provided site

TABLE 3-3. SYSTEM INTERFACES

FAA RADAR:

ASR-3,4,5,6,7,and 8
ASR-9 (SCIP required)
ARSR-1,2,and 3

MILITARY RADAR:

AN/GPN-12,20,and 25
AN/MPN-14
AN/TPN-19

BEACON INTERROGATORS:

ATCBI-3
ATCBI-4
ATCBI-5

AUTOMATION SYSTEMS:

ARTS IIA and ARTS IIIA
PIDP
TPX-42 all versions

VIDEO MAPPERS:

AN/GPA-131
FA-8970

COMMUNICATION LINKS:

TML (VIDEO)
MODEMS, SYNC 2400 bps

TABLE 3-4. RADAR INPUT SIGNAL CHARACTERISTICS

SIGNAL	AMPLITUDE			CHARACTERISTIC IMPEDANCE	INPUT IMPEDANCE	SIGNAL TO NOISE RATIO	PULSE DURATION	PULSE RISE TIME	PULSE FALL TIME	NOTES
	HIGH	LOW	POLARITY							
VIDEO SIGNALS: Normal, MTI	+1.0V to +7.0V, +2.0V nominal	0.0V +/- 0.5V	positive	75 ohms, coax	5000 ohms minimum	4:1 minimum	0.5 usec minimum	0.10 +/- 0.01 usec	0.10 +/- 0.03 usec	Amplitude values after DC offset correction of +/- 3.0V
Beacon, Map Spare	+1.0V to +7.0V, +2.0V nominal	0.0V +/- 0.5V	positive	75 ohms, coax	5000 ohms minimum	4:1 minimum	0.35 usec minimum	0.10 +/- 0.01 usec	0.10 +/- 0.03 usec	Amplitude values after DC offset correction of +/- 3.0V
RADAR PRETRIGGER, BEACON PRETRIGGER	+2.5V to +60.0V	0.0V +/- 0.5V	positive	75 ohms, coax	5000 ohms minimum	7:1 minimum	0.3 to 3.0 usec ..... 3.0 to 5.0 usec	0.02 usec ..... 0.5 usec	0.10 usec ..... 0.30 usec	PRF: 240 to 380 pulses/sec or 700 to 1300 pulses/sec Timing: 0 to 130 usecs prior to radar trigger
ACP/ARP	5.0V +/- 1.0V	0.0V to +0.5 V	positive	75 ohms, coax	5000 ohms	10:1	23.0 +/- 3.0 usec	1.0 usec maximum	1.0 usec maximum	
LONG RANGE ACP/ARP	+10.0 to +60.0V, +15.0V nominal	-0.5V to +5.0V, 0.0V nominal	positive	70 to 80 ohms 75 ohms nominal coax	5000 ohms minimum	7:1	0.5 to 50.0 usec 1.0 usec nominal	0.3 usec maximum 0.1 usec nominal	0.5 usec maximum 0.2 usec nominal	
200-MILE TRIGGER	+2.5V to +60.0V +3.0V nominal	-0.5V to +0.3V, 0.0V nominal	positive	75 ohms, coax	5000 ohms minimum	7:1	0.85 +/- 0.2 usec	0.05 usec	0.10 usec	Trigger occurs 24.7 usecs before the Radar Zero Range (RZR). Used only in PIDP configurations and non-PIDP TPX-42A

TABLE 3-5. AUTOMATION SYSTEM I/O SIGNAL CHARACTERISTICS

AUTOMATION SYSTEM	INPUT SIGNAL		OUTPUT SIGNAL		ALARM SIGNAL		NOTES
	AMPLITUDE	IMPEDANCE	AMPLITUDE	IMPEDANCE	AMPLITUDE	IMPEDANCE	
ARTS IIA	+25.0mV minimum, +5.0 V maximum, +400.0 mV nominal (R) Logic 1: -1.1V, 0 V nominal Logic 0: -2.5V, -3.0 V nominal	75 ohms, terminated per side	12 ma current (T) Logic 1: 0 to -0.5V Logic 0: -3 to -4.5V (data) -3 to -5.5V (control)	75 ohms, terminated per side	1.0V minimum (alarm condition)	Terminated > 7.5K ohms, twisted pair	(R) = Differential Receiver, type 55107B (T) = Differential Transmitter, type 55110A
ARTS IIIA		160 ohms, twisted pair		120 to 180 ohms, twisted pair	1.0V minimum (alarm condition)	Terminated > 7.5K ohms, 50 ohm coax	Pulse Rise Time: 2.0 nsec minimum, 75.0 nsec maximum
PIDP	+25.0 mV minimum, +5.0 V maximum, +400.0 mV nominal (R)	75 ohms, terminated per side	12 ma current (T)	75 ohms, terminated per side (data) 39 ohms, terminated per side (control)	0.0V to +2.0V (alarm condition) +5.0V to +20.0V (no alarm) (*)	> 4K ohms (alarm) > 20K ohms (no alarm) (*)	(R) = Differential Receiver, type 55107B (T) = Differential Transmitter, type 55110A (*) = For Alarm and Indicator Control Signals

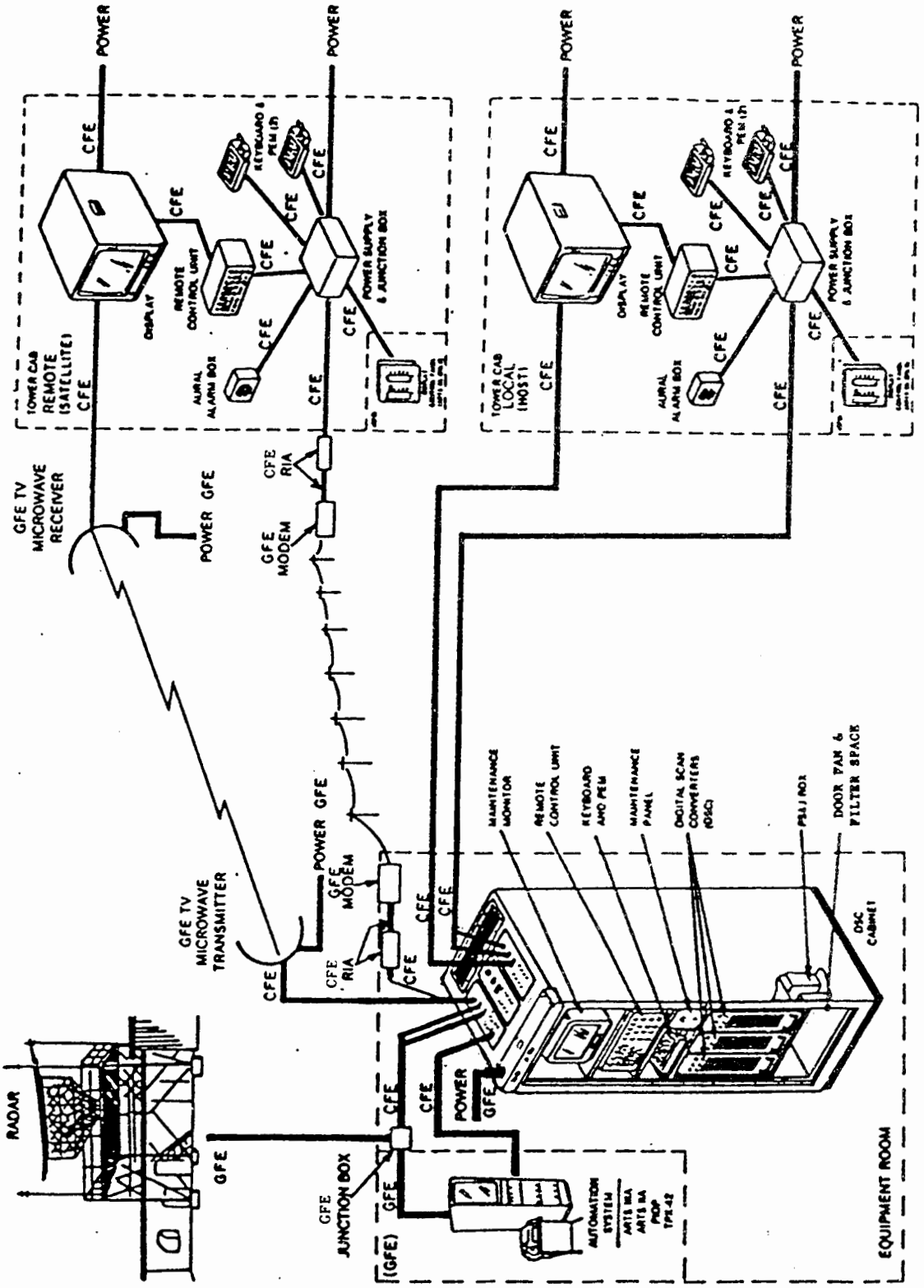


FIGURE 3-13. CONTRACTOR/GOVERNMENT FURNISHED CABLES

TABLE 3-6. DBRITE INTERNAL CABLES

CABLE RUNS	AVAILABLE LENGTHS (ft)
ASC PANEL/PS&J - DATA	50/100/200/300/400/500
ASC PANEL/DISPLAY - VIDEO	50/100/200/300/400/500
PS&J/RCU - DATA	15/25/50
RCU/DISPLAY	15/25/50
PS&J/KBD/PEM 1 - DATA	15/25/50
PS&J/KBD/PEM 2 - DATA	15/25/50
PS&J/AAB	15/25/50
KBD/PEM 1	DIRECT MATING
KBD/PEM 2	DIRECT MATING
PS&J/RCU - POWER	15/25/50
115 VAC/DISPLAY - POWER	15/25
115 VAC/PS&J - POWER	15/25
PS&J/KBD & PEM 1 - POWER	15/25/50
PS&J/KBD & PEM 2 - POWER	15/25/50
PS&J/DCP	15/25/50
ASC PANEL/TML - VIDEO	50/100/200/300/400/500
ASC PANEL/MODEM(RIA) - DATA	50/100/200/300/400/500
DISPLAY 1/DISPLAY 2 - DATA	25/50
DISPLAY 1/DISPLAY 2 - VIDEO	25/50
MODEM(RIA)/PS&J - DATA	50/100/200/300/400/500
TML/DISPLAY - VIDEO	50/100/200/300/400/500

TABLE 3-7. DBRITE EXTERNAL CABLES

CABLE RUNS	AVAILABLE LENGTHS (ft)
AUTOMATION SYSTEM/ASC	25/50/75/100
VIDEOS/ASC	15/25/50/75/100
TRIGGERS/ASC	15/25/50/75/100
ACP & ARP/ASC	15/25/50/75/100
MAPS/ASC	15/25/50/75/100
ALARM/ASC	25/50/75/100

preparation package will request the site selection of fixed, internal cable lengths, as abbreviated in Table 3-6 and Table 3-7. The selection of fixed cable lengths is required to allow early factory production and testing of these EMI cables.

(1). External Cables. Cable connections are made at the cabinet ASC panels which are unique for each automation system configuration. The ASC panels also contain the connectors for other external signals. These connections are presented in the following figures and tables: ARTS IIA - Figure 3-14A/Table 3-8A; ARTS IIIA - Figure 3-14B/Table 3-8B; PIDP - Figure 3-14C/Table 3-8C. The specific external junctions of associated equipment are not identified due to site dependent distribution amplifiers, junction boxes and/or direct connections. The specific connection point and cable lengths must be determined during the site survey. The contractor will provide cables from the DBRITE to the first external connection points.

(2). Internal Cables. Contractor furnished internal cables are displayed in Figure 3-15. Again, many of these cables will be chosen from a fixed length selection (Table 3-6) by the individual sites based on the physical positioning of the equipment.

d. Power Interface. Figure 3-16 illustrates the facility and DBRITE power interfaces. The facility power interfaces for the display unit and the PS&J box are female receptacles (Hubbell 2310 or equivalent) in close vicinity of the units. The facility interface to the top of the DSC cabinet is a one-inch conduit/connector box for cabinet attachment. The conduit will contain both the equipment and convenience power cables with an extra five feet of cable for attachment within the cabinet. Refer to Table 3-2, Table 3-6 and paragraph 71 for additional power data and interfacing information.

e. Grounding Interfaces. The DBRITE system basically has three standard grounding methods with the facilities. Figure 3-16 illustrates two of these methods in the safety/chassis ground (green wire) and the power neutral ground (white wire). These grounding interfaces are at the power receptacles for the tower equipment and at the wire connections with the cabinet. The other grounding interface, signal/chassis ground, is between the FAA site provided ground reference plates and the contractor provided #6 AWG cable from the chassis of the DBRITE units. Signal ground is not isolated from chassis ground within the DBRITE equipment. Refer to paragraph 71 for additional grounding information.

f. Communication Interfaces. Figure 3-17 identifies the equipment/cable interface points in the TML and control data paths for satellite sites. The TML interface is between the government furnished TML, or junction box, and the contractor supplied cable from the DSC cabinet. The control data is transferred through synchronous 2400 bps transmission paths which are GFE items. Existing transmission paths will

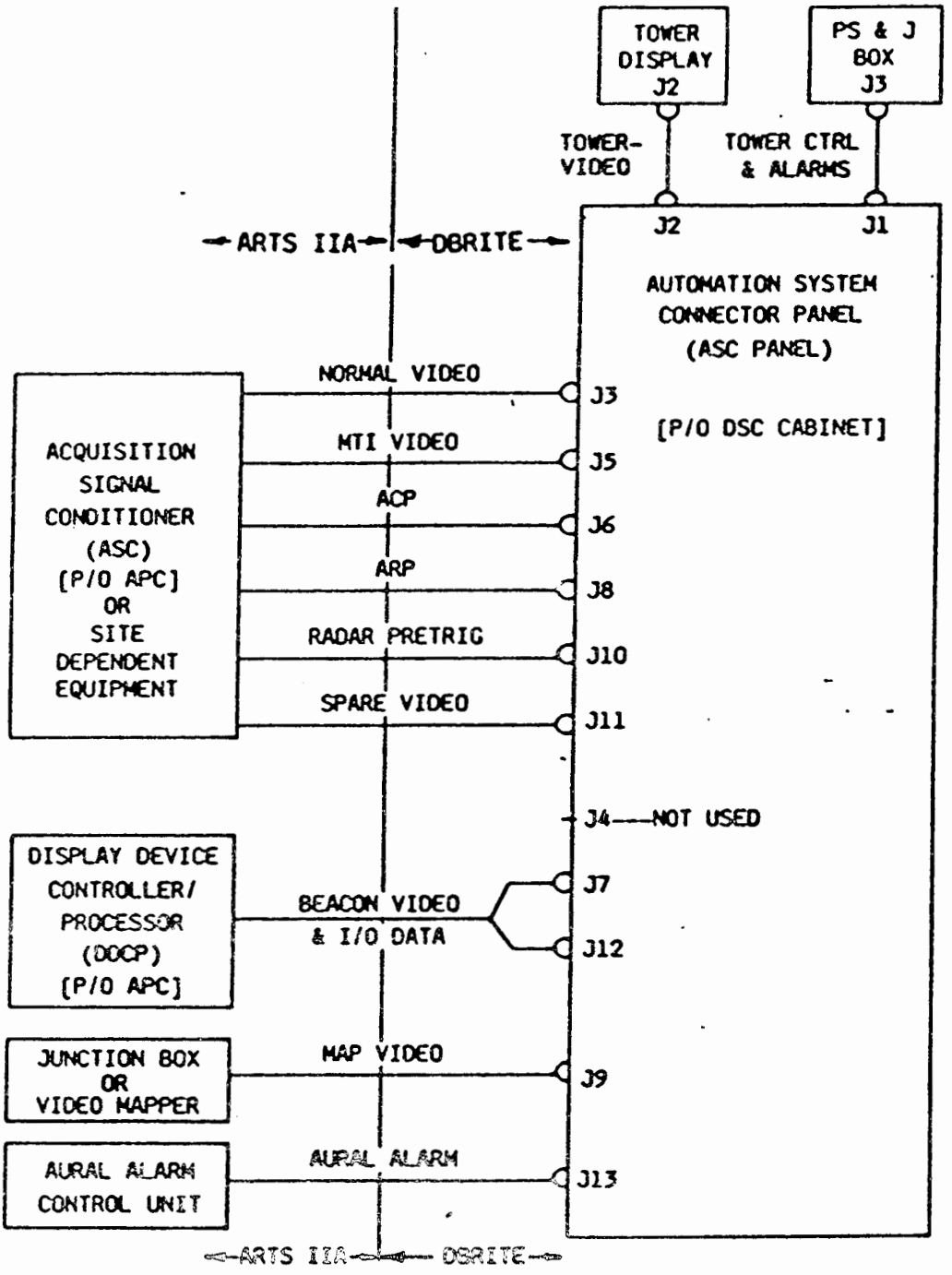


FIGURE 3-14A. ARTS IIA/DBRITE INTERCONNECTING CABLES

TABLE 3-8A. ASC PANEL CONNECTORS (ARTS IIA)

JACK	INTERFACE	FUNCTION	PART NUMBER	TYPE
J1	PS&J Box	Twr Ctrl/Alm	M24308/2-283	25 Pin "D"
J2	Display	Tower Video	M55339/13-0001	BNC
J3	ASC	Normal Video	Same as J2	BNC
J4	Not Used	Spare Connector	Same as J2	BNC
J5	ASC	MTI Video	Same as J2	BNC
J6	ASC	ACP	Same as J2	BN
J7	DDCP	Beacon Video	Same as J2	BNC
J8	ASC	ARP	Same as J2	BNC
J9	ARTS IIA J-Box	Map Video	Same as J2	BNC
J10	ASC	Radar Pretrig	Same as J2	BNC
J11	ASC	Spare Video	Same as J2	BNC
J12	DDCP	Cmptr Interface	M24308/4-3	25 Pin "D"
J13	AACU	Aural Alarms	MS3120E-14-5P	5 Pin (Cir)

NOTES:
- Each ASC Panel provided with 9 coaxial tee connectors.
- Each DSC cabinet provided with nine 75 ohm terminators.
- J3, J5, J6, J8, J10, and J11 can also come from distribution amplifiers or daisy chained from other equipment (Site dependent).
- J7 and J12 connections from same connector on DDCP.
- J9 can be directly from Video Mapper (Site dependent).
- "D" = Type D Connecter.
- (Cir) = Circular MIL-Type Connector

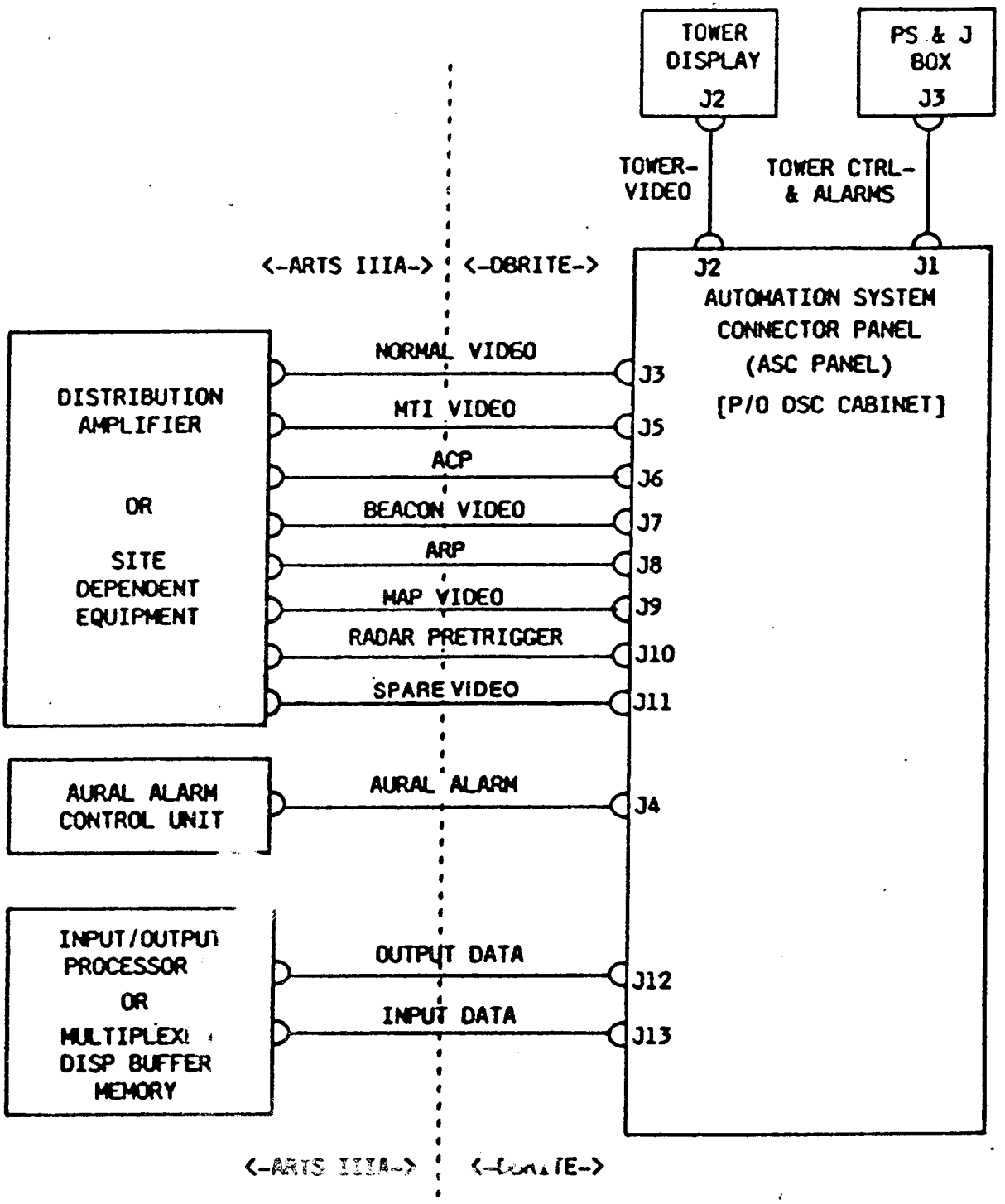


FIGURE 3-14B. ARTS IIIA/DBRITE INTERCONNECTING CABLES

TABLE 3-8B. ASC PANEL CONNECTORS (ARTS IIIA)

JACK	INTERFACE	FUNCTION	PART NUMBER	TYPE
J1	PS&J Box	Twr Ctrl/Alm	M24308/2-283	25 Pin "D"
J2	Display	Tower Video	M55339/13-0001	BNC
J3	Distr Amp	Normal Video	Same as J2	BNC
J4	AACU	Aural Alarm	Same as J2	BNC
J5	Distr Amp	MTI Video	Same as J2	BNC
J6	Distr Amp	ACP	Same as J2	BNC
J7	Distr Amp	Beacon Video	Same as J2	BNC
J8	Distr Amp	ARP	Same as J2	BNC
J9	Distr Amp	Map Video	Same as J2	BNC
J10	Distr Amp	Radar Pretrig	Same as J2	BNC
J11	Not Used	Spare Video	Same as J2	BNC
J12	IOPB or MDBM	Output Data	436-0004-105 (Malco)	120 Pin (Rect)
J13	IOPB or MDBM	Input Data	Same as J12	120 Pin (Rect)

NOTES:
- Each ASC Panel provided with 9 coaxial tee connectors.
- Each DSC cabinet provided with nine 75 ohm terminators.
- Distr Amp = Distribution Amplifier or source of DBRITE interface signals (Site dependent).
- (Rect) = Rectangular Type Connector.

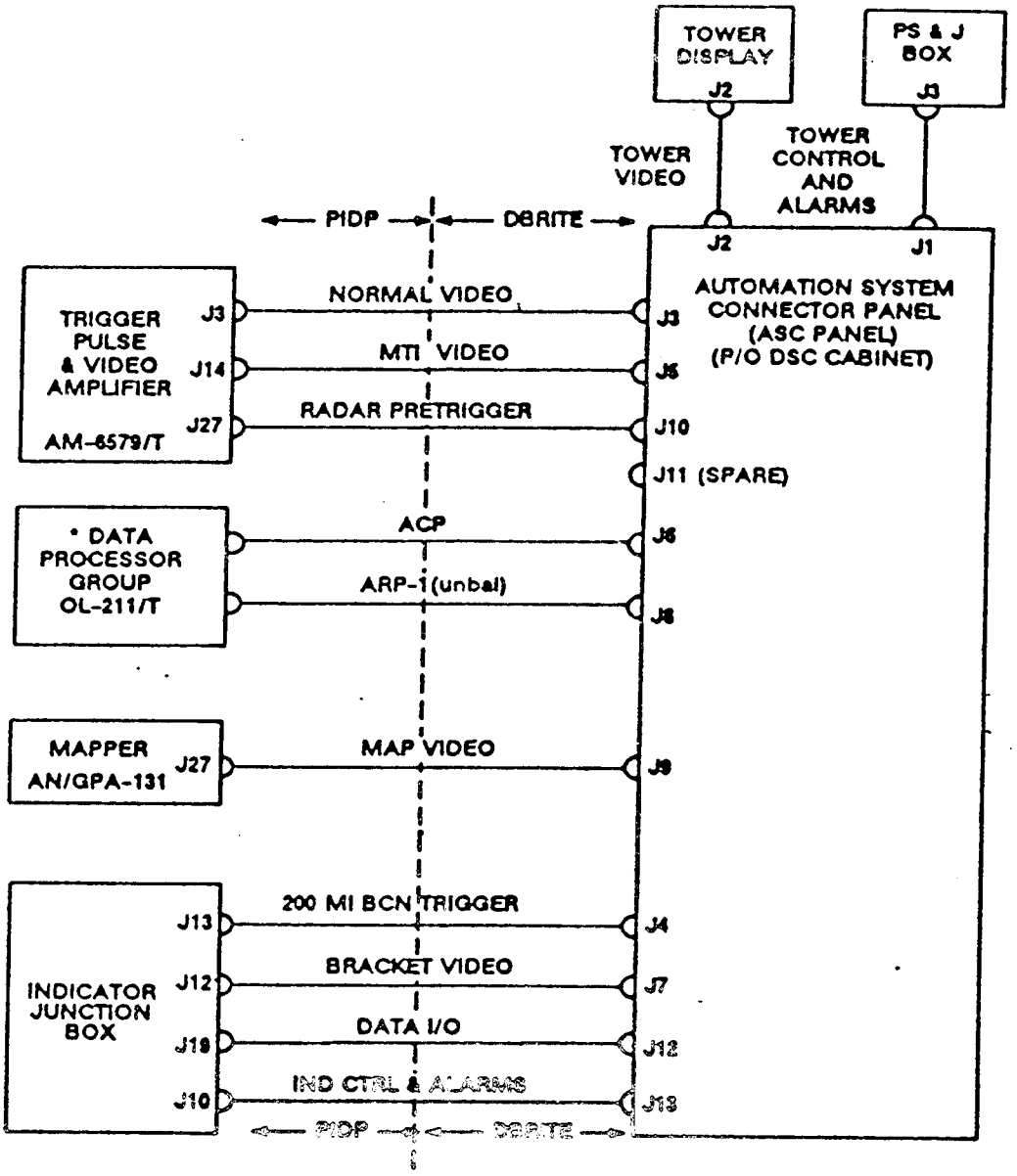


FIGURE 3-14C. PIDP/DBRITE INTERCONNECTING CABLES

TABLE 3-8C. ASC PANEL CONNECTORS (PIDP)

JACK	INTERFACE	FUNCTION	PART NUMBER	TYPE
J1	PS&J Box	Twr Ctrl & Alm	M24308/2-283	25 Pin D
J2	Display	Tower Video	M55339/13-0001	BNC
J3	AM-6579 (J3)*	Normal Video	Same as J2	BNC
J4	IJB (J13)	200 Mi BCN Trig	Same as J2	BNC
J5	AM-6579 (J14)*	MTI Video	Same as J2	BNC
J6	OL-211	ACP-2	Same as J2	BNC
J7	IJB (J12)	Beacon Video	Same as J2	BNC
J8	OL-211	ARP-1 (Unbal)	Same as J2	BNC
J9	GPA-131 (J27)*	Map Video	Same as J2	BNC
J10	AM-6579 (J27)*	Radar Pretrig	Same as J2	BNC
J11	Not Used	Spare Video	Same as J2	BNC
J12	IJB (J19)	Data I/O	MS3120E-22-55P	55 Pin (Cir)
J13	IJB (J10)	Indicator Ctrl & Alarms	MS3120E-22-55PW	55 Pin (Cir)

NOTES:
- Each ASC Panel provided with 9 coaxial tee connectors.
- Each DSC cabinet provided with nine 75 ohm terminators.
- (Jx) = Jack number on equipment specified.
- (Jx)* = Jack number depends on display position.
- IJB (Jx) = Indicator Junction Box, 386501-1 or 386152.
- AM-6579 = Trigger Pulse/Video Amplifier, AM-6579/T.
- OL-211 = Data Processing Group, OL-211/T.
- GPA-131 = Video Mapper, model AN/GPA-131.
- (Cir) = Circular MIL-Type Connector.

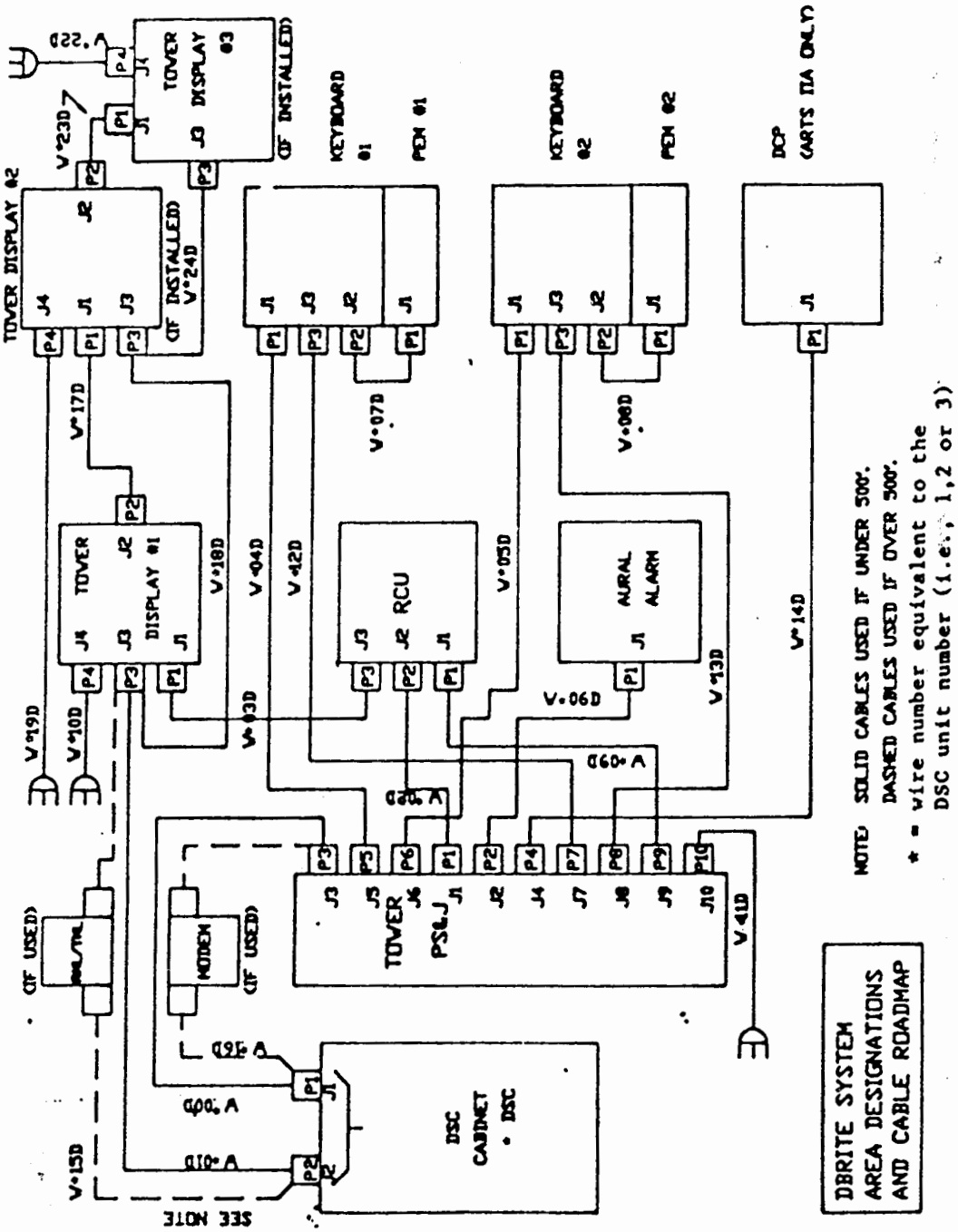


FIGURE 3-15. DBRITE INTRACONNECTING CABLES

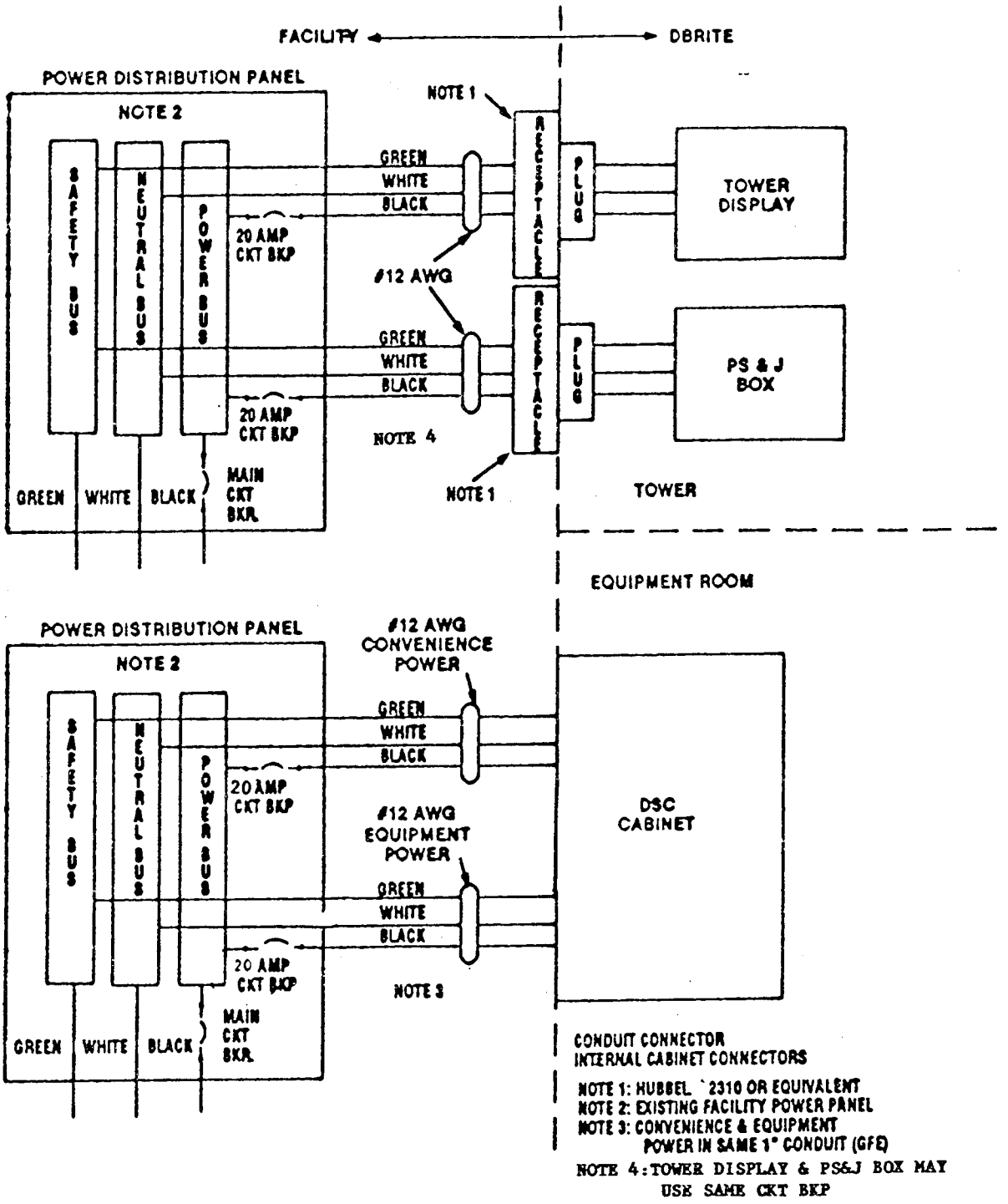


FIGURE 3-16. DBRITE MAIN POWER

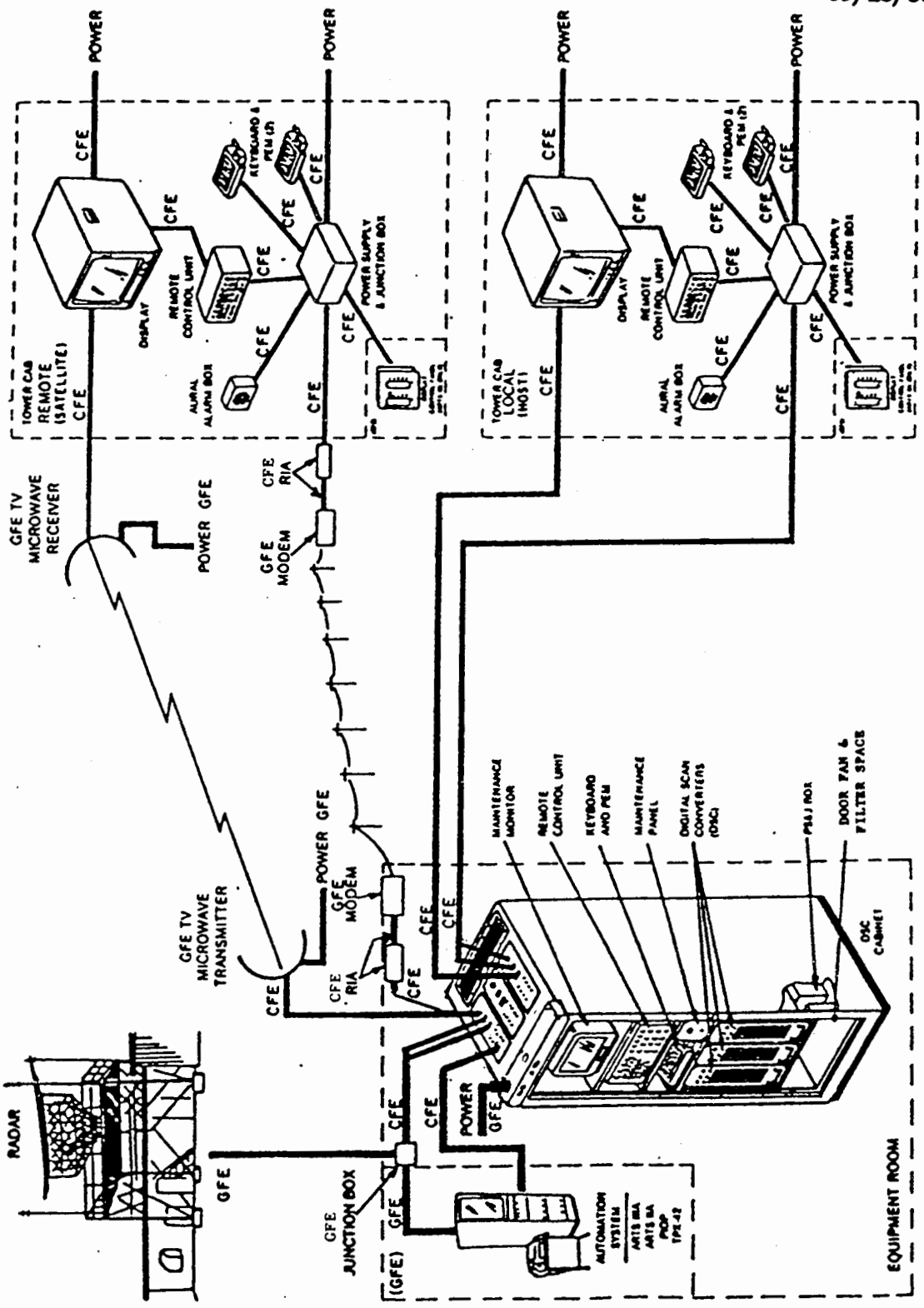


FIGURE 3-17. SYSTEM COMMUNICATION

transmission paths which are GFE items. Existing transmission paths will be utilized where possible. Additional modems and dedicated lines will be acquired only when necessary. The contractor will provide a remote interface adapter (RIA), Figure 3-18, to ensure that either a RS-232 or RS-422 interface (Table 3-9) is available with the modem.

34. COMPUTER PROGRAM CONFIGURATION ITEMS (CPCI). The purpose of the CPCI is to provide control and interface services. The Interface CCA, Synthetic CCA and PS&J CCA each contain a 16/32-bit microprocessor. Each processor is controlled by firmware referred to as a Computer Program Component (CPC). The three CPCs are the: Automation Interface CPC, Synthetic Data Generator CPC and Tower Interface CPC). A brief description of each CPC is given below.

a. Automation Interface CPC. This program controls the operation of the microprocessor located on the I/F CCA and thus is unique to the automation system being used (ARTS IIA, ARTS IIIA, and PIDP). Automation input/output (I/O) "handshaking", bidirectional data transfer and conversion of data to/from a DBRITE common format are the primary functions.

b. Synthetic Data Generator CPC. This program controls the microprocessor located on the synthetic CCA. It functions to update the A/N data and generate the internal maps.

c. Tower Interface CPC. This program controls the microprocessor located on the CCA in the PS&J box. It handles the transfer of data between the tower I/O devices (RCU and KBD/PEM) and the DSC unit. The diagnostic system, BIT, is also controlled by this CPC.

35. ADAPTION SOFTWARE. Site adaption software for operational displays is a site responsibility. Operational requirements must dictate implementation of satellite and local tower DBRITEs. Since DBRITE is functionally an ARTS display, specific guidance on implementation of functions is left up to the facilities. Procedures, letters of agreement, etc., are considered site responsibilities. Site adaption includes possible channel changes and provisions for remote and host site position symbol changes.

36.-39. RESERVED.

TABLE 3-9 REMOTE DATA & CONTROL PATH

DSC Modem Cable (ASC Panel) Pin #	Signal	(P1) Pin #	Remote Interface Adapter (RS 422) Pin #	Signal	Telco Line (Modem) Pin #	Remote Interface Adapter (Modem) Pin #	Signal	Remote Interface Adapter (RS 422) Pin #	(P1) Pin #	Tower Modem Cable Signal	(P56J Box) Pin #
9	BA(A)	2	2	BA	2	2	BA	2	2	BA(A)	1
16	BA(B)	14	14					14	14	BA(B)	9
17	DD(A)	17	17	DD	17	17	DD	17	17	DD(A)	2
9	DD(B)	9	9					9	9	DD(B)	10
2	BB(A)	3	3	BB	3	3	BB	3	3	BB(A)	3
14	BB(B)	16	16					16	16	BB(B)	11
15	DB(A)	15	15	DB	15	15	DB	15	15	----	7
12	DB(B)	12	12					12	12	----	8
18	----	18	18					18	18	V+15VLT1	4
25	V+15RTN	25	25					25	25	V+15RTN0	12
7	SIGNAL GND	7	7	AB	7	7	AB	7	7	SIGNAL GND	5
21	V+15VLT1	21	21					21	21	----	13
8	SPARE	8	8					8	8	SPARE	6
10	SPARE	10	10					10	10	SPARE	14
1	FRAME GND	1	1	AA	1	1	AA	1	1	FRAME GND	15

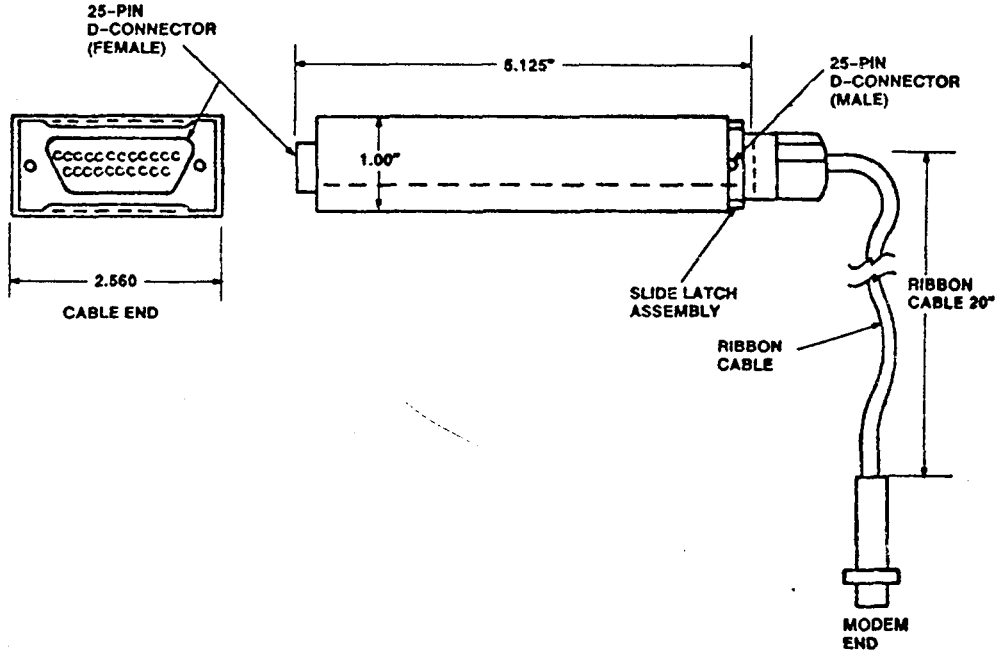


FIGURE 3-18. REMOTE INTERFACE ADAPTER (RIA)

CHAPTER 4. PROJECT SCHEDULE AND STATUS

40. PROJECT SCHEDULES AND GENERAL STATUS. A project schedule is presented in Table 4-1 highlighting activities from initial requirement needs through site installation and acceptance. The schedule depicts the activities completed and the milestone dates of upcoming activities.

41. MILESTONE SCHEDULE SUMMARY. Appendix 1 depicts the installation start date of each FAA site/satellite scheduled for a new DBRITE. Any changes to this schedule will require close contractor and Government coordination.

42. INTERDEPENDENT SEQUENCES. The following projects are directly interrelated with the DBRITE project:

a. TPX-42/ARTS IIA. Once ARTS IIA equipment replaces TPX-42, the existing Numerics Generation and Conversion Equipment (NGCE) cannot be used. The ARTS IIA and DBRITE deliveries are being coordinated.

b. ARTS IIIA. A3.0X software must be in operation prior to the DBRITE installation in order to have sufficient input/output (I/O) multiplex display buffer memory (MDBM) channels available to support DBRITE. Each DSC unit will require an I/O channel from an IOPB or MDBM.

c. Radars. The DBRITE must interface with the analog video of a radar or a device that changes digital video to analog, such as the Surveillance Communications Interface Processor (SCIP) for the ASR-9 digital radar.

d. Communications. Any newly established satellite facility will require a TML and a dedicated 2400 bps synchronous data path to support DBRITE. The TML provides the one-way video transmission, while the modems and telephone lines handle the two-way control, data entries and BIT maintenance monitoring. The TML video bandwidth for the new TMLs will be 15 MHz. Existing TMLs with narrower bandwidth will likely provide satisfactory operation. A site by site evaluation is virtually the only way to confirm this. The TMLs being procured by AAP-320 are using FAA-E-2446B as an equipment specification. Appendix 2 identifies the sites that will receive this national support. New satellite facilities not listed, or those listed which do not need the support, should contact AAP-320.

43.-49. RESERVED.

TABLE 4-1. PROJECT SCHEDULE

ACTIVITY DESCRIPTION	ACTUAL FINISH
Systems Requirements Review (SRR)	04/12/83
Solicitation Issued	07/02/85
Cost/Technical Review	12/10/85
Contract Award	07/02/86
Preliminary Design Review (PDR)	10/07/86
Critical Design Review (CDR)	07/02/87
Factory Acceptance Test Plan Approved	10/10/87
System Delivered to FAA Academy	06/23/88
Operator/Maintenance Training Begins	07/11/88
Project Implementation Plan Approved	09/15/88
	MILESTONE DATE
Training Material Delivered	10/88
System Delivered to FAATC	10/88
Shakedown Test Complete	10/88
Site Spares Delivered	01/89
System Delivered to First Operational Site	01/89
Site Acceptance/Integration Test Complete (IOC)	01/89
First Operational Readiness Demonstration (ORD)	01/89
Final Provisioning Documents Delivered	03/89
Last Operational Site Delivery/ORD	06/91

CHAPTER 5. PROJECT MANAGEMENT

50. PROJECT MANAGEMENT, GENERAL. The DBRITE program is a joint USAF/FAA project with the USAF as the procuring agency. Program management responsibility was delegated to the Electronic Systems Division (ESD), Hanscom Air Force Base, MA. The Military Air Traffic Control System Directorate (ESD/TCV) has been designated as the focal point for overall program management of the DBRITE program. An Interagency Agreement, DTFA01-84-2-0204B, was signed between the USAF and FAA for the procurement of DBRITE systems for the FAA. The Interagency Agreement highlights the necessary supplies, equipment and services to be furnished by the USAF and FAA. The agreement also specifies USAF, FAA and joint USAF/FAA responsibilities. These responsibilities are:

a. United States Air Force Responsibilities.

(1). Develop a specification for the DBRITE system which includes the FAA and USAF requirements.

(2). Negotiate all procurement for equipment, supplies and services defined in ARTICLE I of this agreement.

(3). Coordinate the location, date and time of all design reviews, contractor meetings, program schedule changes, working group and provisioning conferences with the FAA.

(4). Coordinate all plans, acceptance test procedures and reports with the FAA.

(5). Provide copies of all the design review data and audit plans to the FAA no later than 30 days before the design review and audits.

(6). Advise the FAA of any potential problems and keep the FAA advised on the status of any identified problems.

(7). Test and accept delivered equipment in accordance with approved acceptance test procedures. FAA equipment, installed by the contractor, will be accepted by the FAA after installation.

b. Federal Aviation Administration Responsibilities.

(1). Assist in developing the DBRITE specification with FAA requirements.

(2). Reimburse the USAF for incurred project costs.

(3). Participate or provide representation in all reviews, working groups, conferences and contractor meetings.

(4). Review and comment on all data items (i.e., plans, procedures, reports, schedules, etc.) requiring FAA approval.

(5). Participate in the design qualification and acceptance testing.

(6). Provide site destination addresses ninety (90) days prior to site equipment shipment.

(7). Perform facility modifications prior to receiving equipment. Commission equipment after contractor installation and checkout.

(8). Participate in functional and physical configuration audits coordinated by the USAF.

(9). Prepare and coordinate software transition MOA, as appropiate.

c. Joint USAF/FAA Responsibilities.

(1). USAF, ESD/TCV will be the focal point for overall program management of the DBRITE program. The FAA focal point will be the Terminal Automation Program Branch, AAP-320.

(2). The USAF, ESD/TCV, will have prime responsibility and final approving authority for all changes during the contract period. The FAA will be a member of the USAF Configuration Control Board (CCB). The FAA and the USAF will designate a single focal point responsible for providing the necessary coordination on configuration management matters. Reference paragraph 97, Configuration Management (CM), for more details.

(3). USAF and FAA will review and coordinate all procurement documents for inclusion of user requirements.

d. Contract Management. Under the terms of the interagency agreement, the USAF, as the procuring agency has responsibility for DBRITE contract management. In this capacity, the USAF has responsibility for designating the Contracting Officer (CO) and the Quality/Reliability Officer (QRO). Acquisition Contracting Officer (ACO) responsibilities are now resident at the Defense Contract Administrative Services Management Area (DCASMA) in Philadelphia, PA.

(1). Contract Management Responsibilities.

(a). The USAF CO has delegated to the ACO, contract management activities concerned with assuring the terms of performance under the contract are met. These activities include; monitoring

contract, conducting inspections and performing in-progress reviews.

(b). A QRO has been designated as a USAF representative at the contractor's facility. The QRO's functions are governed by USAF policies, procedures, directives and by the terms and conditions of the contract.

(2). Contract Management Reviews (CMR). CMRs are conducted to present a detailed contract status, track outstanding action items and provide a forum to highlight activities planned for the next period. The contractor shall provide a brief narrative review, a summary of action items and a schedule of planned activities be submitted as minutes of the review. Actual contractor man-loading versus projected man-loading, outlined in the contractor's proposal, will also be presented. Agenda items for the CMR will include:

(a). System Safety Program status reviews

(b). Reliability Program status reviews

(c). Maintainability Program status reviews

(d). Software Reviews

(e). Integrated Logistic Support Management Reviews (ILSMR)

(f). Logistic Support Analysis Plan (LSAP) Reviews

e. FAA Project Management. The FAA has designated the ATC Automation Division (AAP-300) as the office of primary responsibility for DBRITE project implementation. This organization will accomplish management tasks within the guidelines provided by applicable FAA policies, directives and procedures. Overall technical management has been delegated to the Terminal Automation Program Branch (AAP-320). A member of this organization has been designated as the DBRITE Project Manager and is the single focal point for all project activities.

(1). Contracting Officer (CO). The USAF is responsible to designate and function as the CO. ALG-310 functions as the FAA CO who is responsible for ensuring adherence to the terms and conditions of the Interagency Agreement (DTFA01-84-2-0204B).

(2). Washington D.C. Organizations. The following tasks are the responsibility of organizations within FAA Headquarters, Washington D.C.

(a). Advanced Automation Service (AAP).

1. Ensure all technical contract requirements are met by providing technical surveillance of the contractor in design, development, testing, installation, integration, and production of hardware and software for the DBRITE program.

2. Provide program guidance to all offices, services, centers, and regions on the implementation of the DBRITE project. Program guidance will include: site installation planning, disposition of excess equipment, training, provisioning, maintenance concept, technical documentation deliverables and test activities (i.e., Operational Readiness Demonstrations (ORD), Joint Acceptance Inspection (JAI), operational changeover and commissioning).

3. Act as a chairman for FAA working groups established to support the DBRITE project.

4. Manage the interdependence between the DBRITE project and other project interfaces.

5. Adhere to the terms and conditions of the Interagency Agreement.

6. Serve as FAA representative to all elements of the USAF in matters relating to the DBRITE program.

7. Secure support services and resource commitments (including budgetary).

8. Develop and ensure adherence to project schedules.

9. Provide a central point of contact for FAA organizational elements.

(b). Air Traffic Operations Service (ATO).

1. Assist in the development of system shakedown and operations changeover plans with AAP, regions and FAATC.

2. Ensure all operational aspects of the system implementation are satisfactorily dealt with by the regions prior to operation changeover.

3. Provide technical coordination and support to AAP-320 on matters relating to the ATC functions, hardware configuration and operational requirements to interface with associated terminal automation systems.

4. Update the Operations and Procedures Handbooks as may be necessary.

5. Provide training requirements for Air Traffic personnel to AAT-10.

6. ATO-259 will submit site specific video map requirements to the National Ocean Service four months before site installation.

(c). Air Traffic Plans and Requirements Service (ATR).

1. ATR-100 will be responsible for ensuring facilities submit requirements for DBRITE video maps to ATO-259 at least four months prior to DBRITE system delivery at a respective site.

(d). Acquisition and Material Service (ALG).

1. Provide policy and procedural guidance to FAA Regions and the Aeronautical Center for appropriate DBRITE property controls.

2. Assist AAP in providing procedures for disposal or utilization of surplus material.

3. Provide membership to the Program Planning Group.

4. Provide membership to the FAA CCB.

(e). System Maintenance Service (ASM).

1. Review and approve training requirements, program development, schedules and training responsibility.

2. Instruct and advise regions on training programs, schedules and assignments.

(f). Associate Adminstrator for Air Traffic (AAT-10).

1. AAT-14 reviews and approves AT training requirements, program development, schedules and training responsibility.

2. AAT-14 instructs and advises regions on AT training programs, schedules and assignments.

3. AAT-14 coordinates APT-300 on the development and conduct of AT training programs.

(g). System Engineering Service.

1. Designate a single focal point responsible for coordination with the USAF on CM matters.

2. Participate in PCA and FCA.

3. Designate a member for the USAF/ESD CCB.

4. Assess any proposed changes which might affect operational parameters.

5. Provide NAS system level requirements for T&E (Verification Requirements Traceability Matrix).

6. Verify test plans for projects to comply with the intentions of FAA Order 1810.4, standards and requirements for T&E.

7. Review waiver requests and provides recommendations to the NAS Program Director of waivers and testing issues following coordination with APM, AAP and ACT.

8. Provides support to the EXCOM Deployment Readiness Review (DRR) in validating that system level integration and operational tests have been conducted to assure that operational suitability and effectiveness are achieved prior to deployment.

(h). System Engineering and Integration Contractor (SEIC) Project Management. The SEIC provides support in accordance with contract DTFA01-84-C-00017, Chapter 10, NAS Project Management Requirements, and in accordance with contract DTFA01-85-Y-01002, para H.2. These contracts require the SEIC to assist AAP-320 with overall management of the project. Specific tasks include:

1. Project Planning

2. Subsystem and interface configuration status through review of Engineering Change Proposals (ECPs) submitted by the DBRITE contractor.

3. Project financial status

4. Project schedule control

5. Documentation review

6. Logistics support management and analysis

7. Contribution to project reviews and reports

8. Coordination with the DBRITE contractor

9. Provide membership to the Program Planning Group.

(3). Field Organizations. The responsibilities of the FAATC, regional offices and FAA AAC include:

(a). Federal Aviation Administration Technical Center (FAATC). Provide the support necessary to test and evaluate the DBRITE functional and operational performance and to ensure compliance with the specification. FAATC will perform these duties in accordance with FAA Order 1810.4. The FAATC will be the site for Qualification Operational Test and Evaluation (QOT&E) of the DBRITE system in conjunction and coordination with the USAF QOT&E. ACT-100 will serve as the lead for QOT&E testing. The test representative will coordinate his activities with the Project Manager, AAP-320. FAATC will also:

1. Provide membership, as required, to the CCB.

2. Provide DBRITE engineering, testing, integration and deployment support to AAP and the regional offices.

3. Establish initial training requirements for FAATC personnel and coordinate with AAT-14 and ASM-210.

4. Financial and item management control and accountability for agency property received after system acceptance testing is established by ACT-600.

5. Provide inputs to the joint FAA/USAF QOT&E test plan, procedures and report.

6. Provide representatives to the Test Plan Working Group (TPWG).

7. Monitors the installation and checkout of NAS subsystems delivered to the FAATC or first field site.

8. Supports the development of test policy standards and test requirements.

9. Supports the accomplishment of a valid test program by reviewing comformity of test programs with FAA orders and standards, by reviewing test plans, reviewing test procedures, monitoring tests and reviewing test analysis and reports.

10. Provides recommendation based on test results in support of the EXCOM DRR process to determine whether a subsystem should or should not be deployed.

(b). Mike Monroney Aeronautical Center (AAC).

1. Provide logistic support service and planning.

2. Accomplish cataloging and provisioning for DBRITE equipment.

3. Provide parts on Exchange and Repair (E&R) basis for each facility receiving DBRITE equipment.

4. Provide national project material which is not procured by ALG.

5. Develop, monitor and conduct DBRITE training programs as directed by APT-300.

6. Adapt national engineering specifications to local conditions and perform engineering services within nationally provided guidelines for the installation, inspection and acceptance of the DBRITE system, including subsystem components, at the FAA Aeronautical Center.

7. Provide AAP-320 with information and support on problems detected in E&R items.

8. Provide for technical supervision of on-site activities performed under the contract at the AAC.

9. Accomplish preliminary acceptance of items delivered to the FAA Aeronautical Center under the contract.

10. Develop, in conjunction with ALG and AAP-320, logistics policies and plans for support of the system.

11. Participate in planning activities to transition system equipment into the logistics inventory.

12. Participate, as requested by APT-300, in the review of instructional materials.

13. Assure timely selections of necessary inspector and maintenance personnel to meet Aeronautical Center training and staffing requirements.

14. Assess quality of contractor prepared maintenance training with assistance of AAC-944.

(c). Regions. Each region will appoint a regional

project manager (See paragraph 51) tasked to ensure facility and engineering work is complete prior to the delivery of equipment. The manager will monitor the installation of the equipment and coordinate requests for contractual or technical support with AAP-320 and the National Automation Engineering Field Support Sector, ASM-160. The regional project manager will arrange for the appointment of a technical on-site representative (TOR) at each facility. The regions are responsible for:

1. Site preparation and oversight of equipment installation in accordance with the schedules provided in Appendix 1, Table 1. Also, the coordination with AAP and AAT on any changes to these schedules.

2. Assigning a Regional Integration Group (RIG) to provide coordination, direction and guidance for effective and timely project implementation. The RIG shall be chaired by the regional project manager and comprised of regionally selected air traffic and airways facilities personnel knowledgeable in the implementation of new display systems.

3. Designating a TOR to serve at each terminal facility. The TOR will provide the region with coordination, direction and guidance necessary for effective and timely site preparation at the assigned site. This task will include on-site decision making and day-to-day problem solving. The TOR is to be the principal on-site regional representative and will report problems, progress and other matters to AAP-320 through appropriate regional representatives. Established channels of communications between regions and AAP-320 are to be used during DBRITE implementation. The TOR is also a member of the RIG and Terminal Integration Group (TIG).

4. Providing membership to the TIG at each site. The TIG is to be comprised of designated on-site AT and AF personnel experienced in the implementation of electronic systems. The TIG shall be designated no later than 90 days prior to shipment of the DBRITE to the respective site. The TIG shall be responsive to the guidance and direction of the TOR. The TOR is to be guided by the contractor provided test documentation, the site installation plan and the PIP. Personnel assigned to the TIG will be engaged in acceptance test activities.

5. Providing logistics requirements input to AAC and AAP-320 .

6. Developing FAA verification activities to ensure the DBRITE system is ready for commissioning.

7. Initiating the changeover activities.

8. Developing the required environmental and as-

built records.

9. Obtaining all TELCO services required for the timely acquisition of communications required for DBRITE.

10. Assuring appropriate military and FAA local on-site agreements are reached.

11. Conducting system verification and changeover.

12. Ensuring completion of Joint Acceptance Inspection (JAI) and DBRITE certification for designated terminal facilities.

13. Ensuring site specific data for the creation of video maps is delivered to ATO-259 at least four months prior to DBRITE system delivery to a site.

14. Establishing financial and item management control for all agency property received in the region.

15. Providing proper administrative channels of communication to assure that AAP-320 is fully cognizant of project status at all times.

16. Conducting scheduled Air Traffic Controller Specialist (ATCS) cadre training developed by AAC.

51. PROJECT CONTACTS. Appendix 3 provides a listing of regional project managers, DBRITE project leads, and other personnel who are providing those functions required for the implementation of the DBRITE systems.

52. PROJECT COORDINATION. The following project groups will assist the Project Manager in fulfilling assigned responsibilities.

a. DBRITE Program Planning Group. DBRITE program planning group(s) are to be formed as required to develop conclusions and recommendations for changes in program implementation planning for consideration by accountable officials.

(1). Membership. The FAA offices and services required to perform the tasks identified in paragraph 50e shall be designated members to the different planning groups established throughout this joint FAA/USAF project. Membership to these groups will depend on the planning function and subject matter.

(2). Duties of Members. Responsibilities of designated members are as follows:

(a). Act as a focal point within the respective organization for DBRITE program planning.

(b). Provide liaison between the planning group and the respective organization.

(c). Take necessary action within the respective organizations for review and implementation matters.

(d). Keep the respective organization informed of program activities.

b. Program Working Groups. Working groups will be established to expedite the preparation of various management, technical and test plans. These groups will include FAA and USAF personnel as well as technical representatives from the DBRITE contractor and SEI. Working groups to be established include the following:

(1). Test Plan Working Group (TPWG).

(2). Integrated Logistics Support Management Team (ILSMT).

(3). Interface Control Working Group (ICWG).

(4). Failure Review Board (FRB).

(5). Configuration Control Board (CCB).

c. AAP 300 Newsletter. The DBRITE program will provide periodic updates to the AAP-300 newsletter for all participating FAA offices. The newsletter will serve as a supplement to the periodic meetings providing general information on the status of the program to interested agencies.

d. Video Maps. ATO 259 will interface with the National Ocean Service (NOS) and work with ATR 100 to ensure timely availability of the video maps for each facility receiving DBRITE systems. All video map requirements will be sent, via ATO 259, to NOS at least four months prior to installation of DBRITE at a site.

53. PROJECT RESPONSIBILITY MATRIX.

TASK/PLAN/ACTIVITY	PRIMARY OFFICE	SUPPORTING OFFICES
Installation Schedule	AAP 320	Regions
Training Programs, Schedules and Assignments	AAT-10 ASM-210 APY-300	ATR, AAT-14, AAP-320 ATO, AAC, ASM 160, AAC-944, Regions

Interfacility Data Transfer Plan Update	FAATC	ACT 500
Configuration Mgmt (H/W & S/W)	AES 410	ASM 160, ATR, ATO, AAP 200, Regions
Firmware Maintenance	ASM 160	AAP 320, Regions
System Maintenance Procedures Handbook	ASM 160	Contractor
QOT&E Test Plan	ACT 120	AAP 320, ASM 160 ACT-570
System Shakedown Test Plan	ASM 160	AAP 320, ATO, FAATC ATR 560, Regions ACT-570
System Shakedown Test Procedures	ASM 160	AAP 320, ATO, ATR, FAATC, ACT-570
Joint Acceptance and Inspection	Regions	AAP 320, ASM 160, ATR, ATO
Operations Changeover Test Plan	Regions	ASM 160, ATR, ATO
Disposition of Excess Equipment Plan	AAP 320	AAC, Regions
Logistic Support Planning	AAC	AAP 320, Regions

54. PROJECT MANAGERIAL COMMUNICATIONS. Project managerial communications is provided monthly to AAP 1 and ADL 1 through the Program Status Review Board (PSRB). The PSRB provides insight into cost, schedule, technical and logistics issues. Communication to the various branches of ATR, ATO, ASM, AAC, FAATC, the regions and other AAP organizations occurs formally through technical interchange meetings (TIMs) that are initiated during all phases of the program. Prior to implementation of the DBRITE systems, AAP 320 will provide updated schedules, technical and logistics information and to further explain site specific implementation issues.

55. IMPLEMENTATION STAFFING. Implementation staffing peculiar to the implementation phase of the contract involves the TOR working with his site personnel and the contractor.

56. PLANNING AND REPORTS.

a. Configuration Control and Status Accounting Reports. Provide the information needed for configuration identification and to determine the status of change proposals, deviations and waivers including implementation status.

b. Project Progress Reports. Notify the Government of the contractor's assessment of contractual effort as of the date of the report, work scheduled for the next period and special problem areas including proposed solutions.

c. Program Status Review Board. Provides information on cost, schedule and technical status of the project.

d. Engineering Field Trip Reports. If required, the contractor shall provide field service engineering support to resolve hardware and firmware problems encountered with on-site implementation/operation of the system. The contractor shall be required to furnish a report of each field trip within seven (7) calendar days after completion at each assigned site.

e. Site Installation Planning and Siting Criteria. The contractor shall furnish site installation plans and siting criteria packages as detailed in chapter seven of this document.

f. National Airspace Performance Reporting System (NAPRS). In accordance with FAA Order 6040.15, DBRITE problems and outages will be reported through NAPRS. Because of the warranty in effect for the system, it is essential that facilities and regions report DBRITE equipment and service outrages in accordance with the requirements in FAA Order 6030.41 (Notification Plan for Unscheduled Facility and Service Outages).

57. APPLICABLE DOCUMENTS. See Appendix 4.

58.-59. RESERVED.

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CHAPTER 6. PROJECT FUNDING

60. PROJECT FUNDING STATUS, GENERAL. The financial summary of the DBRITE project is shown in Table 6-1. Funds obligated to the USAF for contractor procurement and installation of the DBRITE include the basic contract, the contract options and possible changes to the contract. The funds previously forwarded to the Regions are in support of DBRITE site preparations. The financial summary for the procurement and installation of the necessary TMLs is exhibited in Table 6-2. National procurement of the funded TMLs to support new sites with new DBRITEs is currently in process within the AAP-320 office. Appendix 2 identifies the sites for national buy of TMLs.

61.-69. RESERVED.

TABLE 6-1. DBRITE FINANCIAL SUMMARY (M$)

	PRIOR	FY-84	FY-85	FY-86	TOTAL
HDQTRS	0.264	7.373	4.671	35.062	47.370
REGIONS	0.042	0.600	0.249	2.493	3.384
FAA AAC		0.582	0.372	3.636	4.590
FAATC				0.109	0.109
TOTAL	0.306	8.555	5.292	41.300	55.453

TABLE 6-2. TML FINANCIAL SUMMARY (M$)

	FY-84	FY-85	FY-86	TOTAL
HDQTRS	3.366	3.602	0.151	7.119
REGIONS	5.024	4.733	0.179	9.936
FAA AAC	0.368	0.363	0.014	0.745
FAATC	0.150			0.150
TOTAL	8.908	8.698	0.344	17.950

CHAPTER 7. DEPLOYMENT

70. GENERAL DEPLOYMENT ASPECTS. The overall management of DBRITE deployments is the responsibility of AAP-320 through the USAF program office. Facility preparation for the acceptance of the system is the responsibility of each FAA Region. The DBRITE contractor will perform the delivery, installation and acceptance testing at each site. The following paragraphs define contractor and Government roles relevant to the successful installation of the DBRITE.

71. SITE PREPARATION. The site preparation effort includes the distribution and collection of facility and DBRITE data, the completion of FAA facility and system preparations and the preparation of site specific installation plans for DBRITE.

a. Data Distribution and Collection. A contractor produced survey package is distributed to each site, via necessary Headquarter and regional routing, approximately six months prior to the scheduled installation. The package contains a document providing a description of the DBRITE, the Government and contractor responsibilities and the DBRITE facility requirements. In addition, a "Siting Criteria" questionnaire requires feedback information from each site relative to the following topics: site coordinators, security requirements, facility drawings, hoisting equipment, cable length options, DBRITE facility layouts and mounting options. The Regions and each site must coordinate their information and return it to the contractor at least sixty days prior to installation to ensure on-time delivery of the equipment. If necessary, the contractor may require visits to selected sites to assist in understanding the data collection. As a result of the information gathered from the survey package the contractor will produce site specific installation plans.

b. FAA Facility and System Preparations. The FAA regions and facilities are responsible for ensuring that the proper preparation tasks are performed prior to the arrival of the DBRITE equipment. When certain tasks absolutely can not be accomplished, the contractor and FAA will have to work closely on-site to minimize operational interferences and still ensure that the new equipment will be installed, tested and commissioned on time. The contractor is aware of location and interface problems that can be caused in the transition and testing of new hardware. However, the only solution to these necessary tasks is through the cooperation of the parties involved. The following paragraphs identify the typical pre-installation tasks required by FAA.

(1). Cable Supports. Provide and install all cable supports (i.e., trays, ladders, ducts, raceways, etc.) and/or space in existing cable supports for all external and internal DBRITE cables. The cable support requirements between the automation system, or junction box, and DSC cabinet and the DSC cabinet and tower PS&J box are 6 x 3 inch cable trays. Tray dropouts should allow for ten inch bending radii of cables.

Cable trays are not required in the tower between the PS&J box and other units. Minimum size of floor openings from the equipment room to the tower should be 4 x 4 inches. The vertical cable runs will require tie-down points. Also remember that the DBRITE cables are factory manufactured with connectors. See the external and internal cables in paragraph 33 (Interfaces).

(2). Panel Cutouts. Provide panel cutouts if the site has selected the optional mounting or facing of certain DBRITE units. Reference paragraph 31, Physical Descriptions, for these face plate layouts.

(3). Power Distribution. The requirements for DBRITE, single-phase power can easily be incorporated in most existing facility power distribution systems. The power tabulation in paragraph 32b, Figure 3-16 and the following paragraphs identify the power interfaces and installation responsiblities between the site facility and the DBRITE system. Transformer vault cables to the DBRITE primary distribution panels should be checked for sufficient current handling capacities. DBRITE power data is available in Table 3-2. Currently available distribution panels and properly sized circuit breakers may be used for DBRITE installation.

(a). Primary Power - Tower Equipment. FAA site preparation will provide and install, as necessary, the power distribution panel(s), circuit breakers, power cables and receptacles as identified on the "facility" side of Figure 3-16. The power will be terminated in AC receptacles (Harvey Hubbell 2310 or equivalent) which are within 15 or 25 cable feet of the display unit and PS&J box. The contractor will provide the display unit and PS&J box power cables and Hubbell male plugs as identified on the "DBRITE" side of Figure 3-16.

(b). Equipment Power - DSC Cabinet. FAA site preparation will provide and install, as necessary, the power distribution panel, circuit breaker, conduit and power cable identified on the "facility" side of Figure 3-16. The #10 AWG, 3-wire AC power cable will be enclosed in one-inch conduit and will be connected to a 20 ampere circuit breaker. A one-inch box connector is required on the conduit at the cabinet end. An excess of five feet of cable is required to allow connection within the cabinet.

(c). Convenience Power Outlet - DSC Cabinet. FAA site preparation will provide and install, as necessary, the power panel, circuit breaker, conduit and power cable identified on the "facility" side of Figure 3-16. The #12 AWG, 3-wire AC power cable will be enclosed in the same one-inch conduit entering the cabinet with the equipment power cable and will also be connected to a 20 ampere circuit breaker. An excess of five feet of cable is required to allow connection within the cabinet.

(4). Grounding. FAA site preparation for the DBRITE system must provide transient protection, grounding, bonding and shielding in accordance with FAA-STD-020a. This includes the availability of facility ground reference points, with attachment points, within the vicinity (100 cable feet) of the DBRITE units. The contractor will provide and install #6 AWG ground wire, with 1/4 inch attachment lugs, between the DBRITE equipment chassis and the FAA provided ground reference points. If a particular site has problems establishing acceptable grounding requirements, it is suggested that all DBRITE unit chassis be tied to a separate, single ground reference plate which is tied directly back to the facility ground reference. The signal and chassis grounds in the DBRITE equipment are not isolated. The power grounds between the DBRITE units and cabinet convenience outlet are separated to eliminate noises or failures that may be caused by other facility equipment attached to the convenience outlet.

(5). Television Microwave Link (TML). The FAA regions, through appropriate channels, must identify requirements for the TMLs, MDBMs and synchronous 2400 bps transmission paths required to support the DBRITE at existing BRITE remote sites. A 15 MHz bandwidth, measured at the 3db level, is desired by the DBRITE which has a composite televised signal in accordance with EIA RS-343A (See paragraph 42d). Although BRITE TML bandwidths have not been available to the FAA Project Office, it is assumed that most of the TML equipment presently in the field will satisfy the DBRITE needs. The new satellite sites identified in Appendix 2 will receive this equipment through a national TML buy from the AAP-320 office. The Data Multiplexing Network Project Office, APS-510, has been tasked to coordinate the purchase and distribution of the modems with the national TML buy. Regional F&E offices are tasked to coordinate the procurement of telephone lines with APS-510 a minimum of 120 days prior to the planned installation of DBRITE. Appendix 3, Table A3-3, lists the Regional Data Multiplexing Network Associate Program Managers.

(6). Signals and Systems. Provide the proper interfacing signal characteristics per Table 3-4/Table 3-5 and the interdependent systems identified in paragraph 42.

(7). Equipment Routing and Location. Plan and provide an equipment off-loading and unpacking area, routing paths and a temporary set-up area with final location of equipment (i.e., unloading dock; ramps; corridor sizes; door sizes and turns; stairs, hoists and elevators; final equipment locations and attachment).

(8). Equipment Siting. Verify adequacy of installation space for DSC cabinet and tower units (See Table 3-1). If the DSC cabinet is to be bolted to the floor, Figure 3-4B identifies the floor mounting holes that must be provided.

(9). Ventilation. When the RCU, PS&J or display unit are to

be mounted within a confined enclosure, the following ventilation requirements must be provided.

(a). Remote Control Unit (RCU). The RCU requires a minimum air flow of 6 cfm when derived from room ambient air. The recommended minimum clearance for air flow around the RCU case is 1.5 inches with air vent openings of 3" X 4", preferably above and below the RCU case.

(b). Power Supply & Junction (PS&J) Box. The PS&J box requires a minimum air flow of 34 cfm when derived from room ambient air. The recommended minimum clearance for air flow around the PS&J box is 3.0 inches with air vent openings of 3" X 4", preferably above and below the PS&J box.

(c). Display Unit. The display requires a minimum air flow of 53 cfm when derived from room ambient air. The recommended minimum clearance for air flow around the display case is 1.0 inch. Two square air vent openings of 4.5 inches are required, preferably near the rear of the display. One of the vents should contain a facility fan oriented to direct air from the enclosed space into the room.

c. Site Specific Installation Plans.

(1). Site Installation Plan. The contractor will produce an installation plan based on the Siting Criteria information received from each site. The plan will be forwarded to a site thirty (30) days before the start of installation and will contain only a listing of the equipment and specific cable lengths to be received. During these thirty days the sites should compare this listing with the siting criteria earlier forwarded to the contractor. Do not confuse this limited plan with the Sites Acceptance Test in Paragraph 84b. Existing BRITE/BANS systems will remain operational during DBRITE installation except in situations described in paragraph 84.

(2). Installation Test Plan, Procedures and Report. The contractor produced installation test plan and procedures will detail the specific tests used for system acceptance at each site. The plan includes a description of functional tests within the DBRITE system and interface tests with the site radar and automation system. The test procedures will make full use of the DBRITE BIT diagnostics and capabilities of the site automation system to accomplish the testing. A contractor test report will describe the results of the test.

72. DELIVERY. Contractor responsibilities in DBRITE delivery include the packaging, packing, handling, transportation and site notification. The material includes the site specific DBRITE units, site spares, manuals and other documentation. The contractor retains damage, loss and liability responsibilities throughout the equipment installation

activities.

a. Packaging, Handling, Storage and Transportation (PHS&T). The contractor's PHS&T responsibilities are identified in MIL-STD-794 and MIL-P-9024. Packaging and crating the equipment at a satisfactory level (A/B) is the contractor's responsibility. The crating will increase the size of the units by approximately six inches in height, width and depth. See Table 3-2 for unit sizes. Equipment handling will be done by the carrier or contractor with site assistance in special situations.

NOTE: Sites assessing a routing path for the large DSC cabinet should be aware of the size increase due to packaging.

Long term storage of any DBRITE equipment is also the contractor's responsibility. In some instances, a few days of temporary storage may be required at the site location due to installation team scheduling. However, all damage, loss and liability responsibilities still remain with the contractor.

b. Site Notification. The contractor will notify the FAA site coordinator fifteen calendar days prior to the date of shipment. The notification will include the planned date of shipment and arrival, contract number, description and quantity of equipment, carriers name and date of arrival of personnel. The installation personnel, in most instances, will be arriving from another installation site and not with the equipment. Any necessary escort, entry or security passes should be prepared for both the shipper and DBRITE installation team.

c. Shipping. The contractor will usually use a commercial shipper, using FOB destination delivery, to transport the DBRITE material to the sites. The shipping time between the factory and the site will be less than ten days. Paragraph 72, Delivery, identifies the basic materials to be shipped to a site. The equipment for remote sites will be shipped directly to that destination.

73. INSTALLATION PLAN. Installation planning is a joint AAP-320, Region, site and contractor effort. Table 7-1 is a typical DBRITE installation schedule for a single DSC unit installation. The contractor is aware that the DBRITE installation, integration and testing activities will usually involve air traffic operations. Provisions will be made by the contractor for flexible utilization of time to avoid any conflicts. Any known site restrictions or limitations of personnel in specific areas, or for specific lengths of time, should be forwarded to the contractor via AAP-320 thirty days prior to shipment.

a. Site Preparation Verification. The appropriate contractor and Government supervisors will inspect and check several facility preparations for accuracy and completeness prior to the start on DBRITE installation: location and rating of circuit breakers; routing and size

TABLE 7-1. TYPICAL DBRITE INSTALLATION SCHEDULE

DAY	TASKS
First Day	- Off Load Equipment - Uncrate Equipment - Inventory Equipment
Second Day	- Install Equipment - Connect Power Cables - Record Site Configuration
Third Day	- Run Cables to Tower - Connect I/O Cables - Record I/O Levels
Fourth Day	- Turn Power On - Debug System
Fifth Day	- Align System (Off Hours) - Run Internal Test - Check Video Orientation
Sixth Day	- 24 Hour Burn-In - Contractor Checkout Test
Seventh Day	- Site Acceptance Test - FAA Verification - Complete Test Report

NOTE: This is only a "typical" schedule. The contractor will perform the tasks as necessary to ensure proper installation of the equipment and minimum interruption to FAA operations.

of power cables and connectors; voltage checks; cable tray routes; openings and mounting space for DBRITE units; spare parts storage; unloading and equipment delivery route.

b. Installation Material and Equipment. The contractor is responsible for all the material, tools and test equipment necessary to properly install the DBRITE. However, site assistance for support in test equipment or handling, without interrupting tower operations or maintenance, would be beneficial for installation.

c. Unload, Uncrate and Placement. The contractor is responsible to perform these functions at the site. The Siting Criteria document will request a layout of the unloading area and the availability of such site items as ramps, docks and handling carts. To ensure that carrier responsibility and capability to unload each shipment is understood, specific instructions will be included on shipping documents directing the carrier to unload and place the equipment as directed be the receiving facility. In limited instances, the site personnel may be requested to assist the shipper in unloading the equipment to a temorary storage area if the contractor's installation crew has been delayed. Early plans between the site and contractor should determine an uncrating area and temporary or final placement of the equipment units. This type of information is requested in the site survey package.

d. Mechanical Installation. The mechanical and physical aspects of installation will be accomplished by the contractor. These activities include placing DBRITE units in the desired mounting areas, anchoring cabinets to floors and laying cables.

e. Electrical Installation. This contractor effort will include the connection of the DBRITE units to site primary power and grounding. The Government is responsible for connection of external cables to existing equipment.

f. System Integration. Joint responsibility and coordination is required to integrate the DBRITE system with the existing Government equipment. The contractor is responsible for ensuring signal cables are properly terminated to prevent other equipment failures. The contractor is responsible for adjusting and aligning the DBRITE system to operate within the requirements of the system specification. The Government is responsible for adjusting and aligning all interfacing equipment for the proper signal levels as identified in Tables 3-4 and 3-5.

g. Testing. Reference Chapter 8, Verification, for information relating to contractor and Government testing responsibilities at the site. A primary consideration is to coordinate contractor and Government testing activities to ensure minimum acceptance and commissioning time are required.

h. Equipment Removal. AAP-320 is responsible for providing

disposal instructions for the equipment DBRITE has replaced. The FAA regions are responsible for performing the disposal actions.

74. FIRST SITE VERSUS FOLLOW-ON SITE REQUIREMENTS. The first operational DBRITE sites will be considered key sites. The purpose of key sites is to evaluate, validate and participate in the following functions prior to the extended use of DBRITE at subsequent sites.

- Evaluate the contractor site survey package for providing proper DBRITE information and requesting proper site information.
- Attend and evaluate initial contractor training classes for maintenance.
- Validate and participate in the Government QOT&E tests at the FAATC.
- Assist in validation of DBRITE site facility modifications.
- Evaluate the contractor's specific site installation plan.
- Assist in correlating contractor testing and Government commissioning activities.

Additional personnel will participate in the initial key site implementations to ensure complete DBRITE validation is performed in several functional areas. These personnel will represent the following organizations: FAATC, AAP, ATO, ATR and SEIC.

75-79. RESERVED.

CHAPTER 8. VERIFICATION

80. GENERAL. The DBRITE is a joint USAF and FAA project with the acquisition assigned to the USAF. While the contract reflects DOD philosophy and structure, a joint test program will be conducted in accordance with AFR 80-14 and FAA-STD-024A. A coordinated Test and Evaluation Master Plan (TEMP) provides the test planning for the verification of the DBRITE system.

a. Verification Program. The verification program consists of four basic phases: qualification test and evaluation (QT&E), operational qualification test and evaluation (QOT&E), factory production and acceptance test and evaluation (PAT&E) and site acceptance and commissioning. All testing phases involve the participation of government personnel. The QT&E is performed at the contractor's factory to verify the requirements of the DBRITE specification. The second phase, QOT&E, is controlled by the Government at selected site locations to verify the operational needs of the system. Factory PAT&Es are performed at the contractor's plant to ensure both unit and system verification before release to the field. The final phase is the site tests which involve both the contractor and Government. This phase of acceptance and commissioning will be performed as a single change-over test whenever possible.

b. Test Plan Working Group (TPWG). The USAF/FAA Interagency Agreement identifies the USAF as the lead in planning the test and evaluation activities. The TPWG is chaired by the USAF program office and is chartered to set policy and oversee the QT&E and QOT&E phases of testing. The working group provides technical advisory support to plan, conduct and evaluate these test phases. Group members consist of FAA AAP-320, ASM-164, ASM-160, ACT-120, USAF Logistics Command (AFLC), Air Force Communications Command (AFCC), Air Training Command (ATC), US Army and the DBRITE contractor.

81. QUALIFICATION TEST AND EVALUATION (QT&E). QT&E refers to the testing of the DBRITE system to qualify the design. The test will be conducted to demonstrate that the provided system is designed and manufactured to meet the stipulated contract and specification requirements, and that the system fulfills the required functions. The USAF program office will manage the QT&E with support from the TPWG and field representatives. The contractor will generate the test plans, procedures and reports subject to USAF and FAA review and approval. QT&E will be conducted at the contractor's facilities and monitored by Government personnel. Certain interface tests will be conducted in tandem with QOT&E at the FAATC and selected USAF sites.

a. Preliminary Production Test. This test is performed prior to the formal start of the QT&E test and is similar to the testing performed during Production and Acceptance Test and Evalulation (PAT&E, see Paragrapgh 83). The purpose of this test is to perform the final

evaluation of the factory production and acceptance procedures before manufacturing is to begin.

b. Reliability Test. The reliability test will be performed on three DBRITE systems to demonstrate the mean-time-between-failure (MTBF) requirement of 3160 hours. The tests will run continuously with other operational test being performed on the systems during normal duty hours. A test generator will operate the DBRITE functions during the off-duty hours and record any failures that occur.

c. Environmental Test. The purpose of this test is to verify system performance under varying temperature, humidity and altitude environments (See paragraph 32, System Requirements). This test also includes vibration testing to determine the transportability requirements of the system. The maintenance monitor unit, a commercially purchased item, will not undergo the environmental testing.

d. Electromagnetic Compatibility Test (EMC). EMC testing shall meet the requirements for Type A3 equipment in MIL-STD-461B and not degrade the performance of co-located and/or other interfacing equipment. Functional automation system test scenarios will be conducted using a test generator to demonstrate proper operation during the tests. Conducted emissions, radiated emissions, conducted susceptibility and radiated susceptibility tests will be performed.

e. Maintainability Test. The Government will select numerous "faults" to be embedded in the DBRITE system. A contractor technician will isolate the fault through the use of the BIT diagnostics and manual procedures. The mean-time-to-repair (MTTR) these faults shall not exceed thirty minutes; the maximum corrective action time shall not exceed sixty minutes at the 90th percentile. Off-line and on-line preventive maintenance actions shall also be performed and timed.

f. Integration and Functional Test. This test demonstrates the proper operation of the DBRITE system with respect to the unique functions of the automation system. Automation system interfaces, in conjunction with automation system functions, will be addressed and tested. Functional tests will be conducted on the DBRITE system to demonstrate any specification requirements not performed during the integration testing. Specific internal DBRITE functions will also be verified. Simulated radar, beacon and map inputs will be applied to the system during these tests.

82. QUALIFICATION AND OPERATIONAL TEST AND EVALUATION (QOT&E). The QOT&E is a Government performed test following the contractor's QT&E. The QOT&E evaluates operational effectiveness and suitability. The AFCC was assigned as the overall test director of the QOT&E with associate directors to be appointed for the specific test sites. The test sites will be at the FAATC and selected USAF sites. The FAA and USAF will

conduct similar tests in parallel over a period of thirty days using different radar and automation systems. The contractor will install and remove the DBRITE systems at these sites and serve as on-site maintenance and logistics support. ACT-120, ASM-160 and ASM 164 will have the responsibility of writing test procedures that are coordinated and interrelated to similar USAF tests. The operational effectiveness and suitability objectives of this phase are listed in the "QOT&E Test Plan", AFCC-0797.

a. Operational Effectiveness.

(1). Evaluate the DBRITE system capability to provide ATC services.

(2). Evaluate the semiautomated hand-off capabilities between the DBRITE and the IFR facility and reverse.

(3). Identify any operational limitations of the DBRITE system when remoting via modem, TML, fiber optics or coaxial cable.

(4). Assess the feasibility of transferring approach control to the tower during low traffic periods at selected locations (USAF only).

b. Operational Suitability.

(1). Evaluate the reliability and maintainability of the DBRITE when operated and maintained by government personnel.

(2). Assess the adequacy of technical and operating data supporting the DBRITE.

(3). Assess the quality of the Type 1 maintenance training provided.

(4). Evaluate dthe reliability, accuracy and adequacy of the on-line/off-line Built-In-Test (BIT).

(5). Assess the human and safety engineering design of the DBRITE.

(6). Assess the adequacy of the Integrated Logistics Support Plan (ILSP).

83. PRODUCTION AND ACCEPTANCE TEST AND EVALUATION (PAT&E). The PAT&E serves as the contractor's manufacturing tests before equipment is released to the field for installation. The contractor will prepare factory test procedures for review and approval by the USAF and FAA. These test procedures are demonstrated in dry-run testing prior to the start of the contractor's QT&E (See paragraph 81, QT&E). The PAT&E will

test the manufacturing and operation of specific units and the operation within an entire system. The quality control and inspection of DBRITE manufacturing is performed by the Government DCAS located at the contractor's facility. The FAA will not officially accept the systems until field acceptance testing is completed. DBRITE spares for the sites will be accepted at the production factory.

84. ACCEPTANCE TESTING. These tests verify the integrity and interface of DBRITE with site equipment. With operations permitting, FAA sites should be ready to commission DBRITE at the conclusion of this phase. Similar to the installation contractor, the Regions and sites must plan their activities with some flexibility if this goal is to be achieved. The contractor will work the necessary time schedules to help meet this goal. Typical test activities to be performed during the acceptance testing phase are discussed in the following paragraphs.

a. Contractor Checkout Testing. The purpose of this contractor conducted test is to ensure proper installation and operation of the DBRITE system prior to the start of final acceptance testing. If this test should interfere with the location or operation of present equipment or ports, the contractor and site personnel will have to work together on a site-by-site basis to schedule the test during periods of minimum operational impact.

b. Site Acceptance Test. Following contractor checkout testing, an integrated site acceptance test with the contractor and FAA will be performed. The contractor will prepare preprinted forms for acceptance check data (i.e., measurements and tolerances) in the acceptance test procedures for trhe Facility Reference Data File (FRDF). The specific time frame for this testing event will be determined by the host site, as operations allow. Successful completion of the site acceptance test will signify FAA acceptance of the equipment and departure of the contractor.

(1). System Acceptance. The Government DD250 Form, Material Inspection and Receiving Report, shall be used by FAA for acceptance of the DBRITE system. A DD250 Form is required for each destination of equipment at either host or satellite sites. The site TOR shall sign the acceptance block on the DD250 Form with return distribution to the Government DCASR office, the USAF and FAA program offices, the contractor and the local site. DBRITE equipment missing or damaged during shipment, failing during installation or not being installed will be identified on the form following the warranty return procedures. The missing, damaged or failing hardware will be replaced immediately by the contractor through express shipment or direct escort.

(2).. Spares Acceptance. The site spares are tested and accepted by the Government (DD250 Form) at the production factory and shipped with the DBRITE equipment. The contractor will prepare preprinted forms for acceptance check date (i.e., parameters and

tolerances) in the acceptance test procedures for the Facility Reference Data File (FRDF). If necessary during site installation and testing, the contractor may use these spares to avoid delays. However, the failed items will be returned to the contractor following the warranty return procedures. These spares will also be replaced immediately by the contractor through express shipment or direct escort.

c. FAA Verification Activities. FAA regional and facility personnel are encouraged to attempt the completion of tasks deemed necessary to assure the DBRITE system is ready for commissioning with the completion of site acceptance testing and prior to the departure of the contractor. These activities include:

(1). Changeover. The completion of the acceptance test should signify the commissioning of the DBRITE system. Additional support activities, such as training and logistics, should be functional for ORD purposes. The changeover to the DBRITE system is determined by the site, sector or region.

(2). Joint Acceptance Inspection (JAI). Facilities receiving DBRITE are responsible for ensuring a JAI is conducted in accordance with FAA Order 6030.45 for the purpose of determining that DBRITE operation, maintenance and support is satisfactory and ready for commissioning. Every effort should be made to complete these activities prior to or during the site acceptance testing.

85.-89. RESERVED.

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CHAPTER 9. INTEGRATED LOGISTICS SUPPORT

90. GENERAL.

a. DBRITE Logistics Program Planning. The logistics planning for the DBRITE project includes both contractor and government tasks which are defined in the "Integration Support Plan" (ISP) and "Integrated Logistics Support Plan" (ILSP) respectively. A memorandum-of-agreement (MOA) between the USAF and FAA identifies the logistic responsibilities of these agencies. The contracted logistic tasks will be accomplished within the same phasing framework established for the program management activity. These tasks are defined as the design of a logistics system, the development of the system and finally the test, evaluation and installation of the system. The tasks of the DBRITE contract follow these guidelines.

b. Integrated Logistics Support (ILS) Management. Logistic efforts are directed by the requirements provided within the DBRITE contract and specification. These efforts will be further guided under a combination of selected USAF and FAA regulations stipulated within the contract. In order to clarify the logistic requirements of the contract, the USAF and FAA have jointly sponsored the development of an integrated logistic support management team (ILSMT) made up of personnel representing various program agencies. The members have specific areas of responsibility and expertise relating to the logistic functions of the program. Separately, under FAA management, the National Airspace Integrated Logistics Support Management Team (NAILSMT) provides a centralized command, control and coordination structure to monitor DBRITE tailored logistic activities. The NAILSMT is explained under the NAILS Master Plan. The NAILSMT will ensure logistic requirements are properly interpreted by both Government and contractor logistic personnel. The NAILSMT is also charged with ensuring the contractor successfully executes program logistic requirements within the prescribed parameters and time frames. The contractor will develop a logistics management structure that will interface directly with the joint-service ILSMT. The internal FAA NAILSMT will interface, through the FAA program office, with this joint-service ILSMT and not directly with the contractor. Under some circumstances an individual may hold membership on both the NAILSMT and the joint-service ILSMT. A joint-service Integrated Logistic Support Plan (ILSP) will describe the structures and relationship between NAILSMT and ILSMT.

c. Integrated Logistic Support (ILS) and Logistic Support Analysis(LSA). The DBRITE contractor is required to establish and maintain ILS activities through his baselining documents, ISP and LSA Plan. These logistic requirements may be generated from within the logistic organization or from outside organizations. Key responsibilities of the ILS function are with design, installations, technical publications, provision spares, training, configuration management, safety, reliability, maintainability, packaging, handling, transportation and LSA. The LSA serves as a means of accepting

information from the various ILS interfaces, combining and analyzing the information and providing information from which logistic decisions are recommended or determined. Figure 9-1 illustrates the LSA flow. The LSAeffort is established in accordance with MIL-STD-1388-1A and MIL-STD-1388-2A.

91. MAINTENANCE CONCEPT. The DBRITE maintenance concept is designed for organizational and depot levels of maintenance. The organizational tasks will include preventive and corrective actions. Corrective actions are defined as fault isolation, removal and replacement at the LRU level. LRUs will not be repaired at field sites. The contractor's warranty repair service will initially provide depot repair for the LRUs. The FAA Aeronautical Center has been identified as the inter-service depot and Prime Inventory Control Activity (PICA) for the FAA, USAF and US Army. The USAF, Sacramento Air Logistics Center (SM-ALC), will function as the Secondary Inventory Control Activity (SICA). These logistic inventory activities include stock numbering, cataloging and controlling depot parts and repairable spare LRUs. While the FAA depot is being activited to support the DBRITE project, SM-ALC may temporaily function as the PICA. The FAA depot will be activated prior to the end of the DBRITE contract. Contractor reports will provide data to establish, refine and update the maintenance plan.

a. Warranty Repair. The repair of each system is covered in a descending ninty-three (93) month warranty which begins after shipment of the first DBRITE system (i.e., a system shipped thirteen months after the initial system has only 80 months of warranty). The contractor will repair all LRUs; while the FAA depot will be the source for replacement LRUs. Within a three to four year time frame after the initial shipment, the FAA depot will gradually build repair capabilities. Final depot support decisions could be dependent on DBRITE failures during warranty.

b. Reliability Program. Reliability plans, procedures and testing will be prepared and performed by the DBRITE contractor under government approval and participation. A special four month sliding average mean time between failure (MTBF) computation will be completed for the first eighteen months after the initial delivery. Failures occurring during these four months, following delivery of each system, will not be counted. All subsequent failures will count against MTBF. Each site must ensure that their failure reporting includes the time and date of each failure. If the calculated average MTBF falls below 3,160 hours the contractor must undertake a remedial program to change the system and improve the system reliability. Normal FAA NAPRS and failure under warranty reporting procedures will be used for all failures during the warranty period.

92. TRAINING. The DBRITE training program is essentially a multi-organizational effort to obtain both maintenance and operational

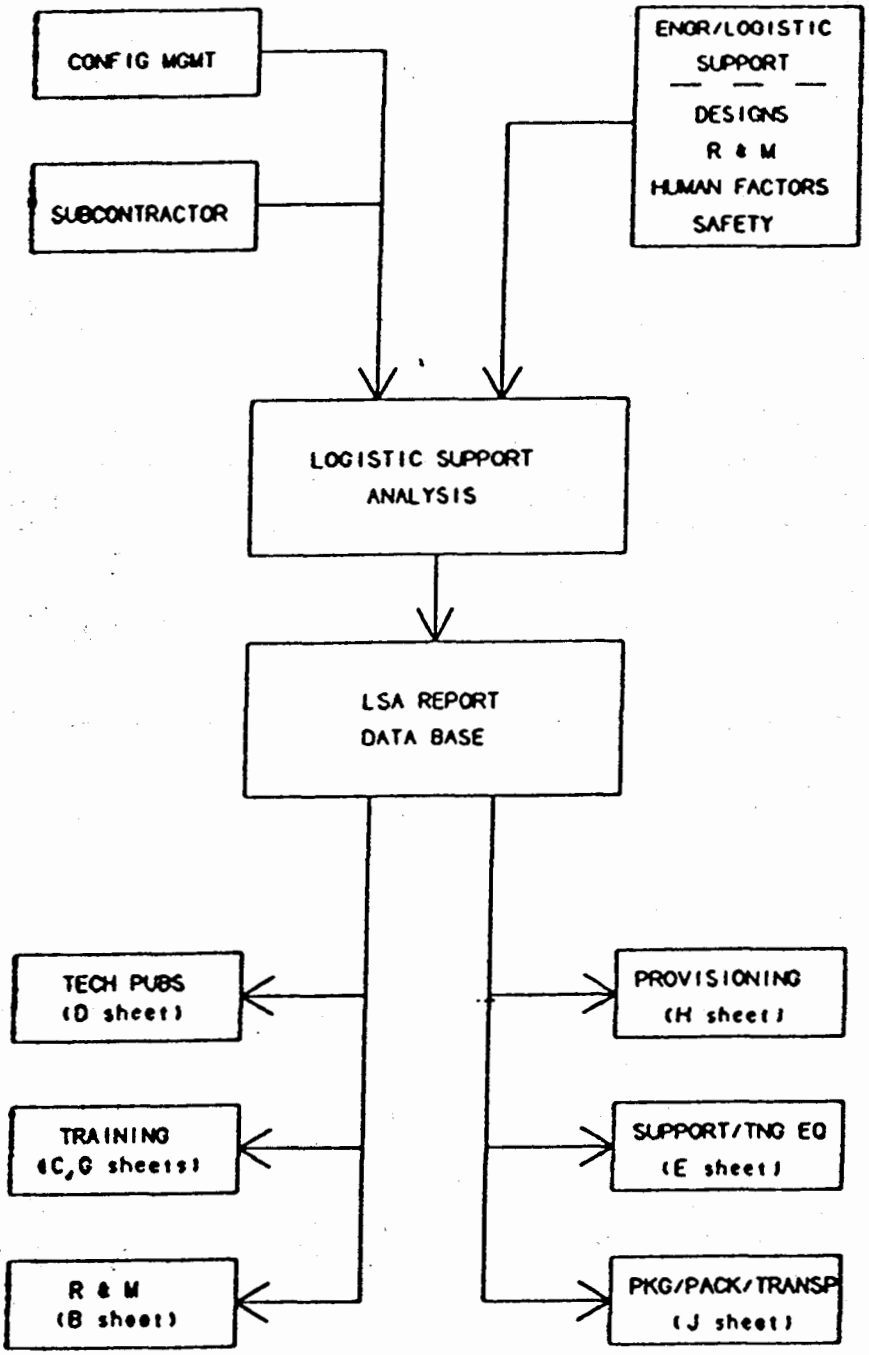

FIGURE 9-1. LOGISTIC SUPPORT ANALYSIS FLOW

training. These organizations include the DBRITE contractor, the FAA Academy, the USAF Air Training Command and each site.

a. Contractor Training Tasks. The contractor will develop maintenance training in accordance with the requirements of specification FAA-E-2552A. This includes lesson plans and training materials. Two contractor conducted (Type 1) classes will be held at the contractor's facility prior to commencement of the Government's QOT&E. The classes will be structured with specific course objectives and include lecture and laboratory training. A total of twelve students per class is allowed (six FAA and six USAF). Student selection for the first classes will include FAA Academy instructors to support future training, FAATC technicians to support QOT&E and key site technicians to also support QOT&E and first site deliveries. Ten optional classes are available in the contract to support any other needs, such as training transition to the FAA Academy. These Type 1 classes would be conducted at the Academy. Presently, neither the FAA nor the USAF is expected to participate in contractor training beyond the initial two classes.

b. FAA Academy. FAA Academy personnel will use contractor produced material, modify the material as required and conduct training for the necessary personnel to support system training. Software training is not a functional entity in the program. Depot level maintenance training is not required immediately due to the special DBRITE warrantly under which the contractor will perform repairs. Depot personnel will attend the standard Type 2 training classes at the Academy and more detailed one-on-one training from the contractor at a later date. The detailed maintenance training will be provided through the enginnering support option of the DBRITE contract.

(1). Airway Facility. Training of Airway Facilities personnel on system hardware will be in accordance with the ASM-210 approved "Subsystem Training Plan for DBRITE". The plan identifies the time and number of Airway Facilities personnel to be trained. Training prerequisite criteria is explained in the contractor's "Task and Skill Analysis" document. One (1) maintenance technician will be trained 30 days prior to the start of site equipment installation and another technician will be trained within 90 days after the installation. Each additional technician will be trained respectively within 180, 270 and 360 days from installation. Concept exams will be produced by the Academy. Certification issues will be performed by the sites under the guidelines of FAA-Order-3400.3. Additional training requirements will be accommodated through the annual call for training process.

(2). Air Traffic Control. Air traffic controller training will be conducted at the FAA field facilities. The Air Traffic Revision and Development section will revise existing training materials and distribute the new material to field facilities for training. The FAA Aeronautical Center will incorporate DBRITE training into its courses for

new controllers. Limited cross training will be necessary when an FAA site supports a military remote site and vise-versa.

c. ATC Field Training. There are three configuration requirements for ATC field training:

- Type 1: Facilities with existing BRITE equipment and automation system interface will require minimal training consisting of operational familiarization of tower equipment.

- Type 2: Facilities with existing BRITE equipment without automation system interface will require training on both automation and remote control functions.

93. SUPPORT TOOLS AND TEST EQUIPMENT. The DBRITE contractor, through baseline data obtained in the LSA process, is responsible for the identification and documentation of all required support and test equipment. The contractor support equipment recommendation data and test tool data currently identifies items, or equivalent items, that are available in the FAA inventory. Additional tools and unique support equipment requirements may be identified in the future. Table 9-1 identifies the test equipment and support tools (Items column), where the items will be located (Location column), who will provide the items (Inventory column) and a brief description of the functions (Purpose column).

94. SUPPLY SUPPORT.

a. Provisioning. Provisioning documentation and spare parts provisioning are accomplished under the guidelines of the DBRITE contract, MIL-STD-1388-2A and MIL-STD-1561B. Provisioning data elements will be documented on logistics H and H1 records. Peculiar spare parts are identified under FAA-G-1375; while procurement is directed under the guidelines of MIL-STD-1561 and agreements between the FAA depot and USAF SM-ALC provisioners. The ninty-three (93) month repair warranty, interim contract repair support and number of inital site spares will delay the need for the final provisioning conference until after the first DBRITE system is delivered. The aspects of the initial site support allowance charts (ISSAC) formulation will occur subsequent to the provisioning effort, with dissemination to field activities for site installation and operational commencement.

b. Spares. The site and depot spares will be tested and accepted at the contractor's factory. Site spares will be delivered with the DBRITE system. DBRITE maintenance follows the policy of FAA work centers. Host sites (i.e., the facility with automation equipment and normally the DBRITE DSC) are considered work centers. A minimum of one (1) set of spares will be provided to each host facility. This typical, but not final, set of LRU spares is identified in Table 9-2. Additional

TABLE 9-1. DBRITE SUPPORT EQUIPMENT

ITEM	LOCATION	INVENTORY	PURPOSE
Multimeter	Site	Site	Adjust power supplies and continuity checks
Oscilloscope Tektronix 453 or equivalent	Site	Site	Equipment alignment and data analysis
Display Overlay	Site	DBRITE New Item	Align display unit (1)
Solder Iron and Tools	Site	Site	Limited component removal and replacement
Genrad 2272	Depot & Unisys	Depot & Unisys	Circuit board test set
Genrad Test Fixtures	Depot & Unisys	DBRITE New Items	For DBRITE CCAs (1)
Digital Generator	Unisys	FAA	Test simulator for automation systems

NOTES:

(1) New items will be provided by the contractor for new location inventory.

TABLE 9-2. DBRITE LRU SPARES

- Display (See Figure 3-10B)
  - TRU
  - HVPS
  - LVPS
  - Video Sync CCA
  - BIT CCA
  - Video Driver
  - Video Preamp
  - Focus Amp
  - Deflection Amp
  - CRT
- DSC Unit (See Figure 3-6)
  - I/F CCA
  - Sync CCA
  - PPI CCA
  - Power Supply
  - Backplate
- PS&J Box (See Figure 3-8)
  - Transformer
  - Power Supply
  - PS&J CCA
  - Filter
- RCU (1)
- EMI Box
- ASC Panel
- Keyboard & PEM (1)
- Maintenance Monitor

NOTE: (1) Subassemblies, such as CCAs, may be used also.

spares will be provided pending the number of DSC units and displays at the host and remote sites. Satellites with large air traffic densities will also receive spare displays. Depot spares will be available at the time of the first DBRITE delivery. Identified piece parts (i.e., switches, caps, lamps) will be obtained through the present aquisition method. Adjustment to piece/peculiar parts, site spares and depot spares will be made at the provisioning conference mentioned in the previous paragraph. Schedule B working items (i.e., storage and documentation cabinets) are not supplied by the project. Cabinets currently used to store BRITE spares and documents should be available at most facilities.

95. DOCUMENTATION. Technical documents and instruction manuals covering the maintenance, operation, installation and test aspects of the program are provided under the guidelines of the DBRITE contract. Related handbooks, under FAA Orders 6000.15A and 6040.15A, will be updated to include DBRITE. Vendor data will be provided in the form of a reprocurement data package. The reprocurement data package includes; schematics, wiring diagrams, parts lists, specifications and CCA art work. This includes assemblies, subassemblies and parts of components without restrictions or limitations to the Government or Government contractors use. Aperture cards are to be developed and provided in accordance with MIL-M 9868, Type I, Class I requirements and mounted in accordance with MIL-C-9877. Control drawings may be provided by the contractor in lieu of design disclosure drawings for commercial off-the-shelf items. All drawings will meet the requirements of DOD-D-1000B, level 3 (production).

96. EQUIPMENT REMOVAL. AAP-320 will provide instructions in accordance with FAA Order 4800.2 concerning disposition of equipment replaced by DBRITE. FAA regions will be responsible for the execution of equipment removal actions incidental to the installation of the DBRITE (See paragraph 73, Delivery).

97. CONFIGURATION MANAGEMENT (CM). Under the terms of the DBRITE Interagency Agreement, the USAF will initially have prime responsibility of CM. The FAA and USAF have designated single focal points to provide the necessary coordination on CM matters. The DBRITE contractor will perform CM activities in accordance with MIL-STD-483 from which the intentions of FAA-STD-021 were developed.

a. USAF Configuration Management. The USAF Project Office, ESD/TCVN, will be the approving authority and in control of DBRITE changes until a determined FAA transition point is determined. Any changes proposed by the miliary services will be distributed to the FAA for review and with membership to their configuration control board (CCB). In reverse, any FAA proposed changes will be dispositioned by the AAP-300 CCB and submitted to the USAF for review, final approval and implementation. Software changes will be made by the contractor, burned into chips as firmware but treated as hardware changes.

b. FAA Configuration Management.

(1). Transition Period. When the DBRITE systems are approximately 60% complete (installed and accepted), system engineering and configuration management division, AES-410, will assume CM responsibilities.

(a). FAA Changes. Changes generated in the field by FAA will be submitted as casefiles to APM-160 for prescreening. The casefiles will the be forwarded to AES-410 for assignment of a NCP number and distribution to "must" evaluators, including the military services, for review. The NCP will be dispositioned at the AAP-300 CCB with the military service in membership.

(b). Military Service Changes. Changes generated by the Services will be initially processed through their own boards and submitted directly to AES-410. APM-160 will be a "must" evaluator in the review cycle of the NCP. Again, the NCP will be dispositioned at the AAP-300 CCB.

(2). Completion Period. When the DBRITE systems are completely installed and accepted, a joint Configuration Control Decision (CCD) will be prepared and approved, transferring CCB responsibility to the Maintenance Engineering (ME) CCB, with signatures from AAP-300 and ME chairmans. The review cycle for FAA and Service changes will be similar to those in the transition period. However, all proposed changes after the CCD signature will then be dispositioned through the ME CCB. Systems Maintenance Service (ASM) will assume responsibility of contractor and depot maintenance activities.

98.-99. RESERVED.

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APPENDIX 1. DBRITE FACILITIES AND CONFIGURATIONS

Appendix 1 identifies only site facilities and configurations which have been approved by ATR, budgeted through FY86 (no FY87 budget) and placed on the DBRITE contract. Site requirements approved and budgeted for FY88 have not been placed on the DBRITE contract to date; therefore, the FY88 items do not appear in Appendix 1. Requirements beyond FY88, which have been properly forwarded to ATR, are still in review for approval and budgeting. The Master Delivery Data File (MDDF) also identifies new requirements which have been approved, budgeted and placed on contract. Appendix 1 includes the following information:

NOTE: ARTS IIA is currently being installed to replace TPX-42 equipment at FAA sites. BANS equipment is also being installed to temporarily function with ARTS IIA since new DBRITE systems are not yet available for installation. When DBRITE deliveries become available, the early systems will be scheduled with the on-going ARTS IIA/TPX-42 installation tasks and to stop installation of the BANS equipment. The sites that have been temporarily supported with BANS will be revisited for DBRITE installation at a later date. The initial DBRITE installation will still be at Reading, PA.

EXPLANATION OF COLUMNS IN TABLE A1-1

Column Heading	Explanations
DELIVERY DATE	Actual date DBRITE is scheduled to be delivered to respective facility.
SEQ NUM	Shows association of satellite and host facilities. A letter following the number indicates a satellite facility (i.e., 10A is a satellite of 10, etc).
FACILITY NAME	Name of facility where respective DBRITE equipment is to be located. Asterisk (*) following name indicates TPX-42 to be replaced with ARTS IIA. Some comments may also follow facility name.
ID	Three letter identifier of site.
ST	State
RO	Regional office identifier.
HOST ID	Three letter identifier of host site if applicable.
C C C S S S 1 2 3	Configuration of DBRITE system(s) scheduled to be installed. All digital scan converters will be installed at host sites even though a quantity is indicated for satellite sites. (See page 4 for explanation of configurations.)
# D S C	Quantity of digital scan converts identified to serve respectible site. (Note that DSCs will actually be installed at host site.)
# D I S	Quantity of tower displays scheduled to be installeld at respective facility.

# REM	Number of remote satellite sites fed from this host site.
#SA	A "1" indicates this site is a satellite facility.
AGENCY	Agency responsible for this site. All agencies indicated to show host/satellite relationship and for coordination purposes. FAA = Federal Aviation Adminstration FAAN = U.S. Navy USAF = U.S. Air Force USA = U.S. Army
MDBM	A number "1" indicates one MDBM required to implement DBRITE.
INTF AUTO SYST	Identifies type of automation system for interface at site when DBRITE is implemented.
TTT MMM LLL TRI	TMLT identifies number of TML transmitters required at the DBRITE host site. TMLR identifies number of TML repeaters between a DBRITE host site and a remote indicator site. TMLI identifies number of TML receivers required at the DBRITE remote indicator site. NOTE: Appendix 2 identifies TML site paths for national-buy; other TML paths are regional buys.

NOTE: Some sites have the comment "Maybe x" following the facility name. This indicates that the site is a possible candidate for a serial Communications Multiplexor Channel (CMC) type of interface from the ARTS IIA or EARTS.

EXPLANATION OF DBRITE CONFIGURATIONS IN TABLE A1-1

DBRITE CONFIGURATIONS	AUTOMATION SYSTEM INTERFACE	NUMBER OF DIGITAL SCAN CONVERTERS
A,G,(S)	ARTS IIIA	1
B,D,H,(S)	ARTS IIIA	2
C,E,F,I	ARTS IIIA	3
J,O,(T)	ARTS IIA	1
K,M,P,(T)	ARTS IIA	2
L,N,Q,R	ARTS IIA	3
U	PIDP	1
V	PIDP	2
W	TPX-42	1

These configurations identify the C C C / S S S column in Table A1-1.
1 2 3

The configurations include the number of digital scan converters (DSC) indicated along with 2 operational keyboards, 2 operational position entry modules (PEMs), 1 remote control unit (RCU) and 1 automation system connector (ASC) panel for each DSC. The cabinet also has 1 maintenance keyboard, 1 maintenance PEM, 1 maintenance RCU, 1 maintenance display and a maintenance control panel for switching the maintenance units to any DSC mounted in the cabinet.

The (S) and (T) configurations do not include a cabinet, but do include 2 operational keyboards, 2 PEMs, 1 RCU, ASC connectors and are designed to be added to a 1 or 2 DSC configuration to fulfill future requirements.

> NOTE: The configurations marked with "X" indicates that the site is a candidate for a serial Communications Multiplexor Channel (CMC) type of interface from the ARTS IIIA or EARTS.

The reason for several configurations (i.e., B,D,H) with the same number of DSCs was to initially provide for differences between local and remote systems. The contractor has provided a common system so both local and remote configurations are identical.

The PIDP is a military automation system which provides alphnumeric capabilities similar to those of the ARTS.

TABLE A1-1. DBRITE FACILITIES AND CONFIGURATIONS

DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# D C	# D S	# R M	# AGENCY S T	M D B M	INTF AUTO SYST	T M L T	T M L R	T M L I
07/25/90	5	ANCHORAGE	ANC	AK	AL		O	N		2	3	2	0 FAA	0	IIA	0	0	0
07/25/90	5A	ELMENDORF AFB	EDF	AK	AL	ANC				1	1	0	1 USAF	0	IIA	0	0	0
07/25/90	5B	MERRILL FIELD	MRI	AK	AL	ANC				1	1	0	1 FAA	0	IIA	0	0	0
07/25/90	6	FAIRBANKS	FAI	AK	AL		N			1	1	2	0 FAA	0	IIA	0	0	0
07/25/90	6A	WAINWRIGHT AAF	FBK	AK	AL	FAI				1	1	0	1 USA	0	IIA	0	0	0
07/25/90	6B	EIELSON AFB	EIL	AK	AL	FAI				1	1	0	1 USAF	0	IIA	0	0	0
*** Total ***										7	8	4	4	0		0	0	0

ACE

DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S S 1	C S S 2	C S S 3	# D S C	# D I S	# R E M	# S A T	AGENCY	M D B M	INTF AUTO SYST	T M L T	T M L R	T M L I
05/26/89	11	LINCOLN *	LNK	NE	CE		J			1	1	0	0	FAA	0	IIA	0	0	0
07/25/89	8	CEDAR RAPIDS *	CID	IA	CE		J			1	1	0	0	FAA	0	IIA	0	0	0
08/24/89	16	WATERLOO	ALO	IA	CE		J			1	1	0	0	FAA	0	IIA	0	0	0
09/24/89	14	SPRINGFIELD	SGF	MO	CE		L			3	3	0	0	FAA	0	IIA	0	0	0
10/24/89	9	DES MOINES	DSM	IA	CE		A			1	1	0	0	FAA	0	IIIA	0	0	0
10/24/89	13	SIOUX CITY *	SUX	IA	CE		L			3	3	0	0	FAA	0	IIA	0	0	0
11/23/89	17	WICHITA	ICT	KS	CE		M			1	2	1	0	FAA	0	IIA	0	0	0
11/23/89	17A	MCCONNELL AFB	IAB	KS	CE	ICT				1	1	0	1	USAF	0	IIA	0	0	0
01/23/90	15	ST LOUIS(SAT=ALN&CPS,AGL	STL	MO	CE		I	B		2	2	3	0	FAA	1	IIIA	2	0	0
01/23/90	15C	CHESTERFIELD	SUS	MO	CE	STL				1	2	0	1	FAA	0	IIIA	0	0	0
02/23/90	10	KANSAS CITY	MCI	MO	CE		F			2	2	1	0	FAA	0	IIIA	0	0	0
02/23/90	10A	KANSAS CITY DOWNTOWN	MKC	MO	CE	MCI				1	1	0	1	FAA	0	IIIA	0	0	0
02/23/90	12	OMAHA (OFFUTT AFB)	OFF	NE	CE		H			0	0	2	0	FAA	0	IIIA	0	0	0
02/23/90	12A	EPPLEY AIRFIELD	OMA	NE	CE	OFF				1	1	0	1	FAA	0	IIIA	0	0	0
02/23/90	12B	OFFUTT AFB	OFF	NE	CE	OFF				1	1	0	1	USAF	0	IIIA	0	0	0
*** Total ***										20	22	7	5		1		2	0	0

AEA

DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# D S C	# D I S	# R E M	# S A T	AGENCY	M D B M	INTF AUTO SYST	T M L T	T M L R	T M L I
01/24/89	40	READING	RDG	PA	EA		L			3	3	0	0	FAA	0	IIA	0	0	0
06/24/89	23	BALTIMORE	BWI	MD	EA		B			2	2	0	0	FAA	0	IIIA	0	0	0
06/24/89	29	ERIE *	ERI	PA	EA		J			1	1	0	0	FAA	0	IIA	0	0	0
08/24/89	22	ATLANTIC CITY	ACY	NJ	EA		J			1	1	0	0	FAA	0	IIA	0	0	0
08/24/89	31	HUNTINGTON *	HTS	WV	EA		J			1	1	0	0	FAA	0	IIA	0	0	0
09/24/89	21	ALLENTOWN	ABE	PA	EA		J			1	1	0	0	FAA	0	IIA	0	0	0
09/24/89	24	BINGHAMTON *	BGM	NY	EA		J			1	1	0	0	FAA	0	IIA	0	0	0
09/24/89	41	RICHMOND	RIC	VA	EA		J			1	1	0	0	FAA	0	IIA	0	0	0
10/24/89	28	ELMIRA *	ELM	NY	EA		L			3	3	0	0	FAA	0	IIA	0	0	0
10/24/89	47	WASHINGTON (NATIONAL)	DCA	DC	EA		C			3	3	2	0	FAA	0	IIIA	0	0	0
10/24/89	47A	ANDREWS AFB-MAYBE X SYS	ADW	MD	EA	DCA	A			1	2	0	1	FAA	0	IIIA	0	0	0
10/24/89	47B	DAVISON AAF(FT BELVOIR)	DAA	VA	EA	DCA	G			1	1	0	1	USA	0	IIIA	0	0	0
11/23/89	30	HARRISBURG	CXY	PA	EA		M			1	1	1	0	FAA	0	IIA	0	0	0
11/23/89	30A	MIDDLETOWN	MDT	PA	EA	CXY				1	1	0	1	FAA	0	IIA	0	0	0
11/23/89	37	PHILADELPHIA	PHL	PA	EA		I	A		1	2	3	0	FAA	0	IIIA	0	0	0
11/23/89	37A	NEW CASTLE (WILMINGTON)	ILG	DE	EA	PHL				1	1	0	1	FAA	0	IIIA	0	0	0
11/23/89	37B	NORTH EAST PHILADELPHIA	PNE	PA	EA	PHL				1	1	0	1	FAA	0	IIIA	0	0	0
11/23/89	37C	TRENTON	TTN	NJ	EA	PHL				1	1	0	1	FAA	0	IIIA	0	0	0
12/24/89	36	NORFOLK	ORF	VA	EA		D			1	1	1	0	FAA	0	IIIA	0	0	0
12/24/89	36A	NEWPORT NEWS	PHF	VA	EA	ORF				1	1	0	1	FAA	0	IIIA	0	0	0
01/23/90	20	ALBANY	ALB	NY	EA		A			1	1	0	0	FAA	0	IIIA	0	0	0
01/23/90	25	BUFFALO	BUF	NY	EA		D			1	1	1	0	FAA	0	IIIA	0	0	0
01/23/90	25A	NIAGARA FALLS	IAG	NY	EA	BUF				1	1	0	1	FAA	0	IIIA	0	0	0
01/23/90	45	SYRACUSE	SYR	NY	EA		A			1	1	0	0	FAA	0	IIIA	0	0	0

AEA

DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# DSC	# DIS	# RLM	# SAT	AGENCY	M DB M	INTF AUTO SYST	T M L T	T M L P	T M L I
02/23/90	43	ROCHESTER	ROC	NY	EA		A			1	2	0	0	FAA	0	IIIA	0	0	0
03/25/90	46	WASH.(DULLES/CHANTILLY)	IAD	DC	EA		B			2	2	0	0	FAA	0	IIIA	0	0	0
04/24/90	38	PITTSBURGH	PIT	PA	EA		P			2	2	1	0	FAA	0	IIIA	0	0	0
04/24/90	38A	ALLEGHENY COUNTY	AGC	PA	EA	PIT				1	1	0	1	FAA	0	IIIA	0	0	0
05/25/90	34	NEW YORK TRACON	N90	NY	EA					0	0	9	0	FAA	0	IIIA	0	0	0
05/25/90	34A	NEW YORK (JFK INTL ARPT)	JFK	NY	EA	N90	X	X		2	3	0	1	FAA	0	IIIA	0	0	0
05/25/90	34B	NEW YORK (LA GUARDIA)	LGA	NY	EA	N90	X	X		2	4	0	1	FAA	0	IIIA	0	0	0
05/25/90	34C	ISLIP	ISP	NY	EA	N90	X	X		2	2	0	1	FAA	0	IIIA	0	0	0
05/25/90	34D	FARMINGDALE	FRG	NY	EA	N90	X			1	1	0	1	FAA	0	IIIA	0	0	0
05/25/90	34E	NEWARK	EWR	NJ	EA	N90	X	X		2	2	0	1	FAA	0	IIIA	2	0	0
05/25/90	34F	CALDWELL	CDW	NJ	EA	N90	X			1	1	0	1	FAA	0	IIIA	0	0	1
05/25/90	34G	MORRISTOWN	MMU	NJ	EA	N90	X			1	1	0	1	FAA	0	IIIA	0	0	1
06/24/90	34H	TETERBORO	TEB	NJ	EA	N90	X			1	2	1	1	FAA	0	IIIA	0	0	0
06/24/90	34I	POUGHKEEPSIE	POU	NY	EA	N90	X			1	1	0	1	FAA	0	IIIA	0	0	0
06/24/90	34J	WHITE PLAINS	HPN	NY	EA	N90	X			1	1	0	1	FAA	0	IIIA	0	0	0
06/24/90	44	ROME (GRIFFISS AFB TRAC)	RME	NY	EA		P			0	0	2	0	FAA	0	IIA	1	0	0
06/24/90	44A	UTICA	UCA	NY	EA	RME				1	1	0	1	FAA	0	IIA	0	1	1
06/24/90	44B	GRIFFISS AFB	RME	NY	EA	RME				1	1	0	1	USAF	0	IIA	0	0	0
09/23/90	26	CHARLESTON	CRW	WV	EA		J			1	1	0	0	FAA	0	IIA	0	0	0
12/24/90	42	ROANOKE	ROA	VA	EA		J			1	1	0	0	FAA	0	IIA	0	0	0
01/23/91	27	CLARKSBURG	CKB	WV	EA		J			1	1	0	0	FAA	0	IIA	0	0	0
01/23/91	49	WILKES BARRE	AVP	PA	EA		J			1	1	0	0	FAA	0	IIA	0	0	0
*** Total ***										57	64	21	21		0		3	1	3

AGL

DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME		ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# D S C	# D I S	# R E M	# AGENCY S A T	M D B M	INTF AUTO SYST	T M T	T M L	T L I
02/23/89	62	FLINT	*	FNT	MI	GL		J			1	1	0	0 FAA	0	IIA	0	0	0
02/23/89	68	LANSING	*	LAN	MI	GL		J			1	1	0	0 FAA	0	IIA	0	0	0
03/26/89	73	MOLINE	*	MLI	IL	GL		J			1	1	0	0 FAA	0	IIA	0	0	0
05/26/89	65	GREEN BAY	*	GRB	WI	GL		M			1	1	1	0 FAA	0	IIA	1	0	0
05/26/89	65A	APPLETON	*	ATW	WI	GL	GRB				1	1	0	1 FAA	0	IIA	0	2	1
06/24/89	75	PEORIA	*	PIA	IL	GL		J			1	1	0	0 FAA	0	IIA	0	0	0
07/25/89	58	DETROIT METRO		DTW	MI	GL		I	D		1	1	4	0 FAA	1	IIIA	0	0	0
07/25/89	58A	ANN ARBOR		ARB	MI	GL	DTW				1	1	0	1 FAA	0	IIIA	0	0	0
07/25/89	58B	DETROIT CITY AIRPORT		DET	MI	GL	DTW				1	1	0	1 FAA	0	IIIA	0	0	0
07/25/89	58C	WILLOW RUN		YIP	MI	GL	DTW				1	1	0	1 FAA	0	IIIA	0	0	0
07/25/89	58D	PONTIAC		PTK	MI	GL	DTW				1	1	0	1 FAA	0	IIIA	0	0	0
07/25/89	84	YOUNGSTOWN	*	YNG	OH	GL		J			1	1	0	0 FAA	0	IIA	0	0	0
08/24/89	78	SAGINAW	*	MBS	MI	GL		J			1	1	0	0 FAA	0	IIA	0	0	0
09/24/89	52	BISMARCK		BIS	ND	GL		L			3	3	0	0 FAA	0	IIA	0	0	0
09/24/89	61	FARGO	*	FAR	ND	GL		L			3	3	0	0 FAA	0	IIA	0	0	0
09/24/89	69	MADISON		MSN	WI	GL		J			1	1	0	0 FAA	0	IIA	0	0	0
09/24/89	76	ROCHESTER	*	RST	MN	GL		L			3	3	0	0 FAA	0	IIA	0	0	0
09/24/89	81	SPRINGFIELD		SPI	IL	GL		J			1	1	0	0 FAA	0	IIA	0	0	0
10/24/89	50	AKRON/CANTON		CAK	OH	GL		J			1	1	0	0 FAA	0	IIA	0	0	0
10/24/89	64	GRAND RAPIDS		GRR	MI	GL		J			1	1	0	0 FAA	0	IIA	0	0	0
10/24/89	72	MINNEAPOLIS		MSP	MN	GL		I	A		1	2	3	0 FAA	0	IIIA	2	0	0
10/24/89	72A	CRYSTAL		MIC	MN	GL	MSP				1	1	0	1 FAA	0	IIIA	0	1	1
10/24/89	72B	FLYING CLOUD		FCM	MN	GL	MSP				1	1	0	1 FAA	0	IIIA	0	0	0
10/24/89	72C	ST. PAUL		STP	MN	GL	MSP				1	1	0	1 FAA	0	IIIA	0	1	1

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DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# DSC	# DSI	# RSM	# AGENCY	M DB	INTF AUTO SYST	T M L T	T M L R	T M L I
10/24/89	79	SIOUX FALLS *	FSD	SD	GL		L			3	3	0	0 FAA	0	IIA	0	0	0
11/23/89	57	DAYTON	DAY	OH	GL		D			1	1	1	0 FAA	0	IIIA	0	0	0
11/23/89	57A	WRIGHT-PATTERSON AFB	FFO	OH	GL	DAY				1	1	0	1 USAF	0	IIIA	0	0	0
11/23/89	66	INDIANAPOLIS	IND	IN	GL		A			1	2	0	0 FAA	0	IIIA	0	0	0
01/23/90	15A	ALTON (HOS=STL-ACE REG)	ALN	IL	GL	STL				1	1	0	1 FAA	0	IIIA	0	3	1
01/23/90	15B	EAST ST LOUIS(HOS=STL,CE	CPS	IL	GL	STL				1	1	0	1 FAA	0	IIIA	0	3	1
01/23/90	54	CHICAGO	ORD	IL	GL		I	F	G	2	3	5	0 FAA	1	IIIA	2	0	0
01/23/90	54A	CHICAGO/MEIGS	OGX	IL	GL	ORD				1	1	0	1 FAA	0	IIIA	0	3	1
01/23/90	54B	MIDWAY AIRPORT	MDW	IL	GL	ORD				1	2	0	1 FAA	0	IIIA	0	0	0
01/23/90	54C	PAL-WAUKEE	PWK	IL	GL	ORD				1	1	0	1 FAA	0	IIIA	0	0	0
01/23/90	54D	CHICAGO (DUPAGE)	DPA	IL	GL	ORD				1	1	0	1 FAA	0	IIIA	0	0	0
01/23/90	54E	AURORA	ARR	IL	GL	ORD				1	1	0	1 FAA	0	IIIA	0	2	1
02/23/90	67	KALAMAZOO	AZO	MI	GL		J			1	1	0	0 FAA	0	IIA	0	0	0
02/23/90	118A	LUNKEN(HOST=CVG-ASO)	LUK	OH	GL	CVG				1	1	0	1 FAA	0	IIIA	0	0	0
03/25/90	56	COLUMBUS	CMH	OH	GL		E			1	1	2	0 FAA	0	IIIA	[illegible]		
03/25/90	56A	COLUMBUS/OSU	OSU	OH	GL	CMH				1	1	0	1 FAA	0	IIIA	0	1	1
03/25/90	56B	RICKENBACKER AFB	LCK	OH	GL	CMH				1	1	0	1 USAF	0	IIIA	0	0	0
04/24/90	74	MUSKEGON	MKG	MI	GL		J			1	1	0	0 FAA	0	IIA	0	0	0
05/25/90	177	GRAND FORKS AFB	RDR	ND	GL		V			1	1	1	0 USAF	0	PIDP	1	0	0
05/25/90	177A	GRAND FORKS	GFK	ND	GL	RDR				1	1	0	1 FAA	0	PIDP	0	1	1
05/25/90	214	ELLSWORTH AFB	RCA	SD	GL		V			1	1	1	0 USAF	0	PIDP	1	0	0
05/25/90	214A	RAPID CITY	RAP	ND	GL	RCA				1	1	0	1 FAA	0	PIDP	0	1	1
06/24/90	55	CLEVELAND (HOPKINS)	CLE	OH	GL		D			1	2	1	0 FAA	0	IIIA	1	0	0
06/24/90	55A	CLEVELAND (BURKE)	BKL	OH	GL	CLE				1	1	0	1 FAA	0	IIIA	0	1	1

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DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# DSC	# DI S	# RE M	# SA T	AGENCY	M DB M	INTF AUTO SYST	T M L T	T M L R	T M L I
06/24/90	60	EVANSVILLE	EVV	IN	GL		J			1	1	0	0	FAA	0	IIA	0	0	0
06/24/90	63	FORT WAYNE	FWA	IN	GL		J			1	1	0	0	FAA	0	IIA	0	0	0
06/24/90	71	MILWAUKEE	MKE	WI	GL		D			1	1	1	0	FAA	0	IIIA	1	0	0
06/24/90	71A	MILWAUKEE (TIMME)	MWC	WI	GL	MKE				1	1	0	1	FAA	0	IIIA	0	1	1
07/25/90	80	SOUTH BEND	SBN	IN	GL		J			1	1	0	0	FAA	0	IIA	0	0	0
09/23/90	77	ROCKFORD	RFD	IL	GL		J			1	1	0	0	FAA	0	IIA	0	0	0
09/23/90	83	TOLEDO	TOL	OH	GL		J			1	1	0	0	FAA	0	IIA	0	0	0
12/24/90	53	CHAMPAIGN	CMI	IL	GL		J			1	1	0	0	FAA	0	IIA	0	0	0
01/23/91	82	TERRE HAUTE	HUF	IN	GL		J			1	1	0	0	FAA	0	IIA	0	0	0
02/22/91	59	DULUTH	DLH	MN	GL		J			1	1	0	0	FAA	0	IIA	0	0	0
02/22/91	70	MANSFIELD	MFD	OH	GL		J			1	1	0	0	FAA	0	IIA	0	0	0
*** Total ***										68	73	20	23		2		*	*	*

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DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# D S C	# D I S	# R E M	# S A T	AGENCY	M D B M	INTF AUTO SYST	T M L T	T M L R	T M L I
08/24/89	87	BURLINGTON	BTV	VT	NE		J			1	1	0	0	FAA	0	IIA	0	0	0
09/24/89	85	BANGOR	BGR	ME	NE		J			1	1	0	0	FAA	0	IIA	0	0	0
09/24/89	90	PORTLAND	PWM	ME	NE		J			1	1	0	0	FAA	0	IIA	0	0	0
09/24/89	91	QUONSET TRACON	OQU	RI	NE		D			0	0	2	0	FAA	0	IIIA	0	0	0
09/24/89	91A	PROVIDENCE	PVD	RI	NE	OQU				1	1	0	1	FAA	0	IIIA	0	0	0
09/24/89	91B	QUONSET (ANG)	OQU	RI	NE	OQU				1	1	0	1	USAF	0	IIIA	0	0	0
02/23/90	88	FALMOUTH (OTIS AFB)	FMH	MA	NE		M			1	1	1	0	USAF	0	IIA	0	0	0
02/23/90	88A	HYANNIS	HYA	MA	NE	FMH				1	1	0	1	FAA	0	IIA	0	0	0
02/23/90	89	NASHUA (BOS CENTER)	ZBW	NH	NE		M			1	1	1	0	FAA	0	IIA	0	0	0
02/23/90	89A	MANCHESTER	MHT	NH	NE	ZBW				1	2	0	1	FAA	0	IIA	0	0	0
03/25/90	86	BOSTON	BOS	MA	NE		G	F		1	1	3	0	FAA	0	IIIA	0	0	0
03/25/90	86A	BEDFORD	BED	MA	NE	BOS				1	1	0	1	FAA	0	IIIA	0	0	0
03/25/90	86B	NORWOOD	OWD	MA	NE	BOS				1	1	0	1	FAA	0	IIIA	0	0	0
03/25/90	86C	BEVERLY	BVY	MA	NE	BOS				1	1	0	1	FAA	0	IIIA	0	0	0
04/24/90	92	WINDSOR LOCKS	BDL	CT	NE		E	G		1	1	3	0	FAA	0	IIIA	0	0	0
04/24/90	92A	HARTFORD	HFD	CT	NE	BDL				1	1	0	1	FAA	0	IIIA	0	0	0
04/24/90	92B	WESTFIELD	BAF	MA	NE	BDL				1	1	0	1	FAA	0	IIIA	0	0	0
04/24/90	92C	WESTOVER AFB	CEF	MA	NE	BDL				1	1	0	1	USAF	0	IIIA	0	0	0
*** Total ***										17	18	10	10		0		0	0	0

DSRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# D S C	# D I S	# P E R	# S A T	AGENCY	M D B M	IVTS AUTO SYST	T M L T	T M L R	T L L I
05/26/89	93	BILLINGS *	BIL	MT	NM		J			1	1	0	0	FAA	0	IIA	0	0	0
06/24/89	95	CASPER	CPR	WY	NM		J			1	1	0	0	FAA	0	IIA	0	0	0
09/24/89	94	BOISE	BOI	ID	NM		J			1	1	0	0	FAA	0	IIA	0	0	0
10/24/89	96	COLORADO SPRINGS	COS	CO	NM		M			1	2	1	0	FAA	0	IIA	0	0	0
10/24/89	96A	BUTTS AAF	FCS	CO	NM	COS				1	1	0	1	USA	0	IIA	0	0	0
11/23/89	100	MOSES LAKE *	MWH	WA	NM		J			1	1	0	0	FAA	0	IIA	0	0	0
11/23/89	101	PASCO *	PSC	WA	NM		J			1	1	0	0	FAA	0	IIA	0	0	0
02/23/90	105	SEATTLE	SEA	WA	NM		I	F	G	2	2	5	0	FAA	1	IIIA	2	0	0
02/23/90	105A	BOEING FIELD	BFI	WA	NM	SEA				1	1	0	1	FAA	0	IIIA	0	0	0
02/23/90	105B	RENTON	RNT	WA	NM	SEA				1	1	0	1	FAA	0	IIIA	0	2	1
02/23/90	105C	TACOMA	TIW	WA	NM	SEA				1	1	0	1	FAA	0	IIIA	0	1	1
02/23/90	105D	MCCHORD AFB	TCM	WA	NM	SEA				1	1	0	1	USAF	0	IIIA	0	0	0
02/23/90	105E	GRAY AAF FT LEWIS	GRF	WA	NM	SEA				1	1	0	1	USA	0	IIIA	0	0	0
04/24/90	97	DENVER	DEN	CO	NM		C	I		3	3	3	0	FAA	1	IIIA	0	0	0
04/24/90	97A	ARAPAHOE COUNTY ARPT	APA	CO	NM	DEN				1	1	0	1	FAA	0	IIIA	0	0	0
04/24/90	97B	JEFFERSON COUNTY ARPT	BJC	CO	NM	DEN				1	1	0	1	FAA	0	IIIA	0	0	0
04/24/90	97C	BUCKLEY ANGB	BKF	CO	NM	DEN				1	1	0	1	USAF	0	IIIA	0	0	0
04/24/90	104	SALT LAKE CITY	SLC	UT	NM		G	F		2	3	2	0	FAA	0	IIIA	1	0	0
04/24/90	104A	HILL AFB	HIF	UT	NM	SLC				1	1	0	1	USAF	0	IIIA	0	0	0
04/24/90	104B	OGDEN	OGD	UT	NM	HIF				1	1	0	1	FAA	0	IIIA	0	1	1
06/24/90	98	EUGENE	EUG	OR	NM					1	1	0	0	FAA	0	IIA	0	0	0
06/24/90	106	SPOKANE	GEG	WA	NM		O	N		2	3	2	0	FAA	0	IIA	1	0	0
06/24/90	106A	FAIRCHILD AFB	SKA	WA	NM	GEG				1	1	0	1	USAF	0	IIA	0	0	0
06/24/90	106B	SPOKANE-FELTS	SFF	WA	NM	GEG				1	1	0	1	FAA	0	IIA	0	1	1

ANM

DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# DSC	# DIS	# REM	# AGENCY	M DBM	INTF AUTO SYST	T M L T	T M L R	T M L I
07/25/90	99	GREAT FALLS	GTF	MT	NM		N			2	2	1	0 FAA	0	IIA	0	0	0
07/25/90	99A	MALMSTROM AFB	GFA	MT	NM	GTF				1	1	0	1 USAF	0	IIA	0	0	0
08/24/90	102	PORTLAND	PDX	OR	NM		C	H		3	3	2	0 FAA	0	IIIA	1	0	0
08/24/90	102A	HILLSBORO	HIO	OR	NM	PDX				1	2	0	1 FAA	0	IIIA	0	1	1
08/24/90	102B	TROUTDALE	TTD	OR	NM	PDX				1	1	0	1 FAA	0	IIIA	0	0	0
08/24/90	103	PUEBLO	PUB	CO	NM		L			3	3	0	0 FAA	0	IIA	0	0	0
11/23/90	108	WHIDBEY NAS (USN) EVERETT	NUW	WA	NM					0	0	1	0 FAA	0	TPX-42	1	0	0
11/23/90	108A	EVERETT (PAINE FIELD)	PAE	WA	NM	NUW	W			1	2	0	1 FAA	0	TPX-42	0	2	1
*** Total ***										41	46	17	17	2		6	8	6

DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# D S C	# D I S	# R E M	# S A T	AGENCY	M D B M	INTF AUTO SYST	T M L T	T M L R	T M L I
03/26/89	132	LEXINGTON *	LEX	KY	SO		J			1	1	0	0	FAA	0	IIA	0	0	0
05/26/89	117	COLUMBUS *	CSG	GA	SO		M			1	1	1	0	FAA	0	IIA	0	0	0
05/26/89	117A	LAWSON AAF(FT BENNING)*	LSF	GA	SO	CSG				1	1	0	1	USA	0	IIA	0	0	0
06/24/89	111	AUGUSTA *	AGS	GA	SO		J			1	1	0	0	FAA	0	IIA	0	0	0
07/25/89	142	PATRICK AFB (COCOA)	COF	FL	SO		V			1	1	1	0	USAF	0	PIDP	0	0	0
07/25/89	142A	MELBOURNE	MLB	FL	SO	COF				1	1	0	1	FAA	0	PIDP	0	0	0
07/25/89	154	WILMINGTON	ILM	NC	SO		J			1	1	0	0	FAA	0	IIA	0	0	0
08/24/89	109	ASHEVILLE *	AVL	NC	SO		J			1	1	0	0	FAA	0	IIA	0	0	0
08/24/89	113	CHARLESTON	CHS	SC	SO		J			1	2	0	0	FAA	0	IIA	0	0	0
08/24/89	153	WEST PALM BEACH	PBI	FL	SO		J			1	2	0	0	FAA	0	IIA	0	0	0
09/24/89	116	COLUMBIA	CAE	SC	SO		J			1	1	0	0	FAA	0	IIA	0	0	0
09/24/89	119	DAYTONA BEACH	DAB	FL	SO		J			1	2	0	0	FAA	0	IIA	0	0	0
10/24/89	122	FORT MYERS REGIONAL	RSW	FL	SO		M			1	1	1	0	FAA	0	IIA	0	0	0
10/24/89	122A	FORT MYERS	FMY	FL	SO	RSW				1	1	0	1	FAA	0	IIA	0	0	0
10/24/89	124	GREENSBORO	GSO	NC	SO		M			1	1	1	0	FAA	0	IIA	0	0	0
10/24/89	124A	WINSTON-SALEM	INT	NC	SO	GSO				1	1	0	1	FAA	0	IIA	0	0	0
11/23/89	131	KNOXVILLE	TYS	TN	SO		J			1	2	0	0	FAA	0	IIA	0	0	0
11/23/89	133	LOUISVILLE (STANDIFORD)	SDF	KY	SO		D			1	1	1	0	FAA	0	IIIA	0	0	0
11/23/89	133A	LOUISVILLE (BOWMAN)	LOU	KY	SO	SDF				1	1	0	1	FAA	0	IIIA	0	0	0
11/23/89	135	MEMPHIS	MEM	TN	SO		B			2	3	0	0	FAA	0	IIIA	0	0	0
11/23/89	150	TAMPA (MAYBE X)	TPA	FL	SO		F	H		2	3	3	0	FAA	0	IIIA	0	0	0
11/23/89	150A	SARASOTA (MAYBE X)	SRQ	FL	SO	TPA				1	1	0	1	FAA	0	IIIA	0	0	0
11/23/89	150B	CLEARWATER (MAYBE X)	CLW	FL	SO	TPA				1	1	0	1	FAA	0	IIIA	0	0	0
11/23/89	150C	ALBERT WHITTED(MAYBE X)	SPG	FL	SO	TPA				1	1	0	1	FAA	0	IIIA	0	0	0

ASO

DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# D S C	# D I S	# R E M	# S A T	AGENCY	M D B M	INTF AUTO SYST	T M L T	T M L R	T M L I
12/24/89	137	MIAMI	MIA	FL	SO		I	I	G	1	2	6	0	FAA	1	IIIA	0	0	0
12/24/89	137A	FT. LAUDERDALE (EXEC)	FXE	FL	SO	MIA				1	2	0	1	FAA	0	IIIA	0	0	0
12/24/89	137C	FT. LAUDERDALE/HOLLYWOOD	FLL	FL	SO	MIA				1	3	0	1	FAA	0	IIIA	0	0	0
12/24/89	137D	HOLLYWOOD	HWO	FL	SO	MIA				1	1	0	1	FAA	0	IIIA	0	0	0
12/24/89	137E	OPA LOCKA	OPF	FL	SO	MIA				1	2	0	1	FAA	0	IIIA	0	0	0
12/24/89	137F	POMPANO BEACH	PMP	FL	SO	MIA				1	1	0	1	FAA	0	IIIA	0	0	0
12/24/89	137G	TAMIAMI	TMB	FL	SO	MIA				1	2	0	1	FAA	0	IIIA	0	0	0
12/24/89	144	RALEIGH/DURHAM	RDU	NC	SO		B			2	2	0	0	FAA	0	IIIA	0	0	0
01/23/90	114	CHARLOTTE	CLT	NC	SO		D			2	2	0	0	FAA	0	IIIA	0	0	0
01/23/90	125	GREER	GSP	SC	SO		M			1	1	1	0	FAA	0	IIA	0	0	0
01/23/90	125A	GREENVILLE	GMU	SC	SO	GSP				1	1	0	1	FAA	0	IIA	0	0	0
01/23/90	140	NASHVILLE	BNA	TN	SO		D			2	2	0	0	FAA	0	IIIA	0	0	0
02/23/90	112	BIRMINGHAM	BHM	AL	SO		A			1	1	0	0	FAA	0	IIIA	0	0	0
02/23/90	118	COVINGTON (SAT=LUK-AGL)	CVG	KY	SO		D			1	1	1	0	FAA	0	IIIA	0	0	0
02/23/90	129	JACKSONVILLE	JAX	FL	SO		D			1	2	1	0	FAA	0	IIIA	1	0	0
02/23/90	129A	JACKSONVILLE (CRAIG)	CRG	FL	SO	JAX				1	1	0	1	FAA	0	IIIA	0	1	1
04/24/90	110	ATLANTA	ATL	GA	SO		G	F		2	4	2	0	FAA	0	IIIA	0	0	0
04/24/90	110A	DEKALB-PEACHTREE	PDK	GA	SO	ATL				1	1	0	1	FAA	0	IIIA	0	0	0
04/24/90	110B	FULTON COUNTY	FTY	GA	SO	ATL				1	2	0	1	FAA	0	IIIA	0	0	0
04/24/90	141	ORLANDO INTERNATIONAL	MCO	FL	SO		F			2	2	1	0	FAA	0	IIIA	0	0	0
04/24/90	141A	ORLANDO EXECUTIVE	ORL	FL	SO	MCO				1	1	0	1	FAA	0	IIIA	0	0	0
04/24/90	152	TYNDALL AFB	PAM	FL	SO		V			1	1	1	0	USAF	0	PIDP	0	0	0
04/24/90	152A	PANAMA CITY (BAY COUNTY)	PFN	FL	SO	PAM				1	1	0	1	FAA	0	PIDP	0	0	0
06/24/90	134	MACON (ROBINS AFB)	WRB	GA	SO		P			0	0	2	0	FAA	0	IIA	1	0	0

DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# DSC	# DIS	# RBM	# AGENCY	M DB M	INTF AUTO SYST	T M L T	T M L R	T M L I
06/24/90	134A	MACON (WILSON)	MCN	GA	SO	WRB				1	1	0	1 FAA	0	IIA	0	0	1
06/24/90	134B	ROBINS AFB	WRB	GA	SO	WRB				1	1	0	1 USAF	0	IIA	0	0	0
06/24/90	136	MERIDIAN NAS	NMM	MS	SO		O			1	1	0	0 FAAN	0	IIA	0	0	0
06/24/90	149	TALLAHASSEE	TLH	FL	SO		J			1	1	0	0 FAA	0	IIA	0	0	0
07/25/90	143	PENSACOLA	PNS	FL	SO		L	L		1	1	5	0 FAA	0	IIA	5	0	0
07/25/90	143A	NORTH WHITING GCA (USN)	NSE	FL	SO	PNS				1	1	0	1 FAAN	0	IIA	0	2	1
07/25/90	143B	NORTH WHITING ATCT (USN)	NSE	FL	SO	PNS				1	1	0	1 FAAN	0	IIA	0	2	1
07/25/90	143C	SOUTH WHITING ATCT (USN)	NDZ	FL	SO	PNS				1	1	0	1 FAAN	0	IIA	0	2	1
07/25/90	143D	SHERMAN ATCT (USN)	NPA	FL	SO	PNS				1	1	0	1 FAAN	0	IIA	0	1	1
07/25/90	143E	SHERMAN GCA (USN)	NPA	FL	SO	PNS				1	1	0	1 FAAN	0	IIA	0	1	1
08/24/90	128	JACKSON	JAN	MS	SO		M			1	1	1	0 FAA	0	IIA	1	0	0
08/24/90	128A	HAWKINS	HKS	MS	SO	JAN				1	1	0	1 FAA	0	IIA	0	1	1
08/24/90	138	MOBILE	MOB	AL	SO		J			1	1	0	0 FAA	0	IIA	0	0	0
09/23/90	115	CHATTANOOGA	CHA	TN	SO		J			1	1	0	0 FAA	0	IIA	0	0	0
09/23/90	147	SAVANNAH	SAV	GA	SO		M			1	1	1	0 FAA	0	IIA	0	0	0
09/23/90	147A	HUNTER AAF (FT STEWART)	SVJ	GA	SO	SAV				1	1	0	1 USA	0	IIA	0	0	0
09/23/90	151	TRI-CITY (BRISTOL)	TRI	TN	SO		J			1	1	0	0 FAA	0	IIA	0	0	0
10/24/90	123	FORT RUCKER (CAIRNS AAF)	OZR	AL	SO		H			1	1	2	1 USA	0	IIIA	0	0	0
10/24/90	123A	DOTHAN	DHN	AL	SO	OZR				1	1	0	1 FAA	0	IIIA	0	0	0
10/24/90	127	HUNTSVILLE	HSV	AL	SO		J			1	1	0	0 FAA	0	IIA	0	0	0
10/24/90	139	MONTGOMERY (MAXWELL AFB)	MXF	AL	SO		P			0	0	2	0 FAA	0	IIA	0	0	0
10/24/90	139A	DANNELLY FIELD	MGM	AL	SO	MXF				1	1	0	1 FAA	0	IIA	0	0	0
10/24/90	139B	MAXWELL AFB	MXF	AL	SO	MXF				1	1	0	1 USAF	0	IIA	0	0	0
10/24/90	145	SAN JUAN CERAP	ZSU	PR	SO		H			0	0	3	0 FAA	0	IIIA	1	0	0

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DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# DSC	# DIS	# REM	# SAT	AGENCY	M DB M	IPTF AUTO SYST	T M L T	T M L R	T M L I
10/24/90	145A	SAN JUAN	SJU	PR	SO	ZSU				1	1	0	1	FAA	0	IIIA	0	0	0
10/24/90	145B	SAN JUAN (ISLA GRANDE)	SIG	PR	SO	ZSU				1	1	0	1	FAA	0	IIIA	0	1	1
10/24/90	145C	ST. THOMAS (MAYBE X)	STT	VI	SO	ZSU	G			1	1	0	1	FAA	0	IIIA	0	0	0
11/23/90	130	KEY WEST NAS (USN)	NQX	FL	SO		W			0	0	1	0	FAA	0	TPX-42	1	0	0
11/23/90	130A	KEY WEST	EYW	FL	SO	NQX				1	1	0	1	FAA	0	TPX-42	0	0	1
12/24/90	126	GULFPORT	GPT	MS	SO		M			1	1	1	0	FAA	0	IIA	0	0	0
12/24/90	126A	KEESLER AFB	BIX	MS	SO	GPT				1	1	0	1	USAF	0	IIA	0	0	0
01/23/91	120	FAYETTEVILLE	FAY	NC	SO		R			1	1	2	0	FAA	0	IIA	0	0	0
01/23/91	120A	SIMMONS AAF (FT BRAGG)	FBG	NC	SO	FAY				1	1	0	1	USA	0	IIA	0	0	0
01/23/91	120B	POPE AFB	POB	NC	SO	FAY				1	1	0	1	USAF	0	IIA	0	0	0
02/22/91	121	FLORENCE	FLO	SC	SO		L			3	3	0	0	FAA	0	IIA	0	0	0
*** Total ***										88	104	41	40		1		*	*	*

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DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# DSC	# DIS	# REM	# AGENCY	M DB M	ITF AUTO SYST	T M L T	T M L R	T M L I
04/25/89	157	AMARILLO *	AMA	TX	SW		J			1	1	0	0 FAA	0	IIA	0	0	0
04/25/89	174	MIDLAND *	MAF	TX	SW		J			1	1	0	0 FAA	0	IIA	0	0	0
04/25/89	179	LOWER RIO GRANDE *	HRL	TX	SW		Q			0	0	3	0 FAA	0	IIA	0	0	0
04/25/89	179A	BROWNSVILLE *	BRO	TX	SW	HRL				1	1	0	1 FAA	0	IIA	0	0	0
04/25/89	179B	HARLINGEN *	HRL	TX	SW	HRL				1	1	0	1 FAA	0	IIA	0	0	0
04/25/89	179C	MCALLEN *	MFE	TX	SW	HRL				1	1	0	1 FAA	0	IIA	0	0	0
05/26/89	167	FORT SMITH *	FSM	AR	SW		J			1	1	0	0 FAA	0	IIA	0	0	0
06/24/89	175	MONROE	MLU	LA	SW		L			3	3	0	0 FAA	0	IIA	0	0	0
07/25/89	155	ABILENE (DYESS AFB) *	DYS	TX	SW		P			0	0	2	0 FAA	0	IIA	0	0	0
07/25/89	155A	ABILENE (MUNI) *	ABI	TX	SW	DYS				1	1	0	1 FAA	0	IIA	0	0	0
07/25/89	155B	DYESS AFB *	DYS	TX	SW	DYS				1	1	0	1 USAF	0	IIA	0	0	0
07/25/89	160	BEAUMONT/PORT ARTHUR	BPT	TX	SW		J			1	2	0	0 FAA	0	IIA	0	0	0
08/24/89	165	ROBERT GRAY AAF(FT HOOD)	GRK	TX	SW		O			1	1	0	0 USA	0	IIA	0	0	0
08/24/89	184	WACO	ACT	TX	SW		L			3	3	0	0 FAA	0	IIA	0	0	0
09/24/89	213	ENGLAND AFB	AEX	LA	SW		V			1	1	1	0 USAF	0	PIDP	1	0	0
09/24/89	213A	ALEXANDRIA (ESLER)	ESF	LA	SW	AEX				1	1	0	1 FAA	0	PIDP	0	0	1
10/24/89	159	BATON ROUGE	BTR	LA	SW		J			1	2	0	0 FAA	0	IIA	0	0	0
11/23/89	176	NEW ORLEANS	MSY	LA	SW		D			1	2	1	0 FAA	0	IIIA	0	0	0
11/23/89	176A	LAKEFRONT	NEW	LA	SW	MSY				1	2	0	1 FAA	0	IIIA	0	0	0
12/24/89	162	DALLAS	DFW	TX	SW		I	I		2	6	4	0 FAA	0	IIIA	0	0	0
12/24/89	162A	ADDISON	ADS	TX	SW	DFW				1	2	0	1 FAA	0	IIIA	0	0	0
12/24/89	162B	DALLAS (LOVE FIELD)	DAL	TX	SW	DFW				1	3	0	1 FAA	0	IIIA	0	0	0
12/24/89	162C	DALLAS REDBIRD ARPT	RBD	TX	SW	DFW				1	1	0	1 FAA	0	IIIA	0	0	0
12/24/89	162D	FORT WORTH (MEACHAM)	FTW	TX	SW	DFW				1	2	0	1 FAA	0	IIIA	0	0	0

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DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# DSC	# DI S	# RE M	# AGENCY	M DB M	INTF AUTO SYST	T M L T	T H L R	T M L I
12/24/89	183	TULSA	TUL	OK	SW		D			1	2	1	0 FAA	0	IIIA	0	0	0
12/24/89	183A	RIVERSIDE (R. L. JONES)	RVS	OK	SW	TUL				1	2	0	1 FAA	0	IIIA	0	0	0
01/23/90	163	EL PASO	ELP	TX	SW		D			1	2	1	0 FAA	0	IIIA	0	0	0
01/23/90	163A	BIGGS AAF (FT BLISS)	BIF	TX	SW	ELP				1	1	0	1 USA	0	IIIA	0	0	0
01/23/90	181	SAN ANTONIO	SAT	TX	SW		E			1	2	2	0 FAA	0	IIIA	1	0	0
01/23/90	181A	KELLY AFB	SKF	TX	SW	SAT				1	1	0	1 USAF	0	IIIA	0	0	0
01/23/90	181B	SAN ANTONIO (STINSON)	SSF	TX	SW	SAT				1	1	0	1 FAA	0	IIIA	0	1	1
02/23/90	156	ALBUQUERQUE	ABQ	NM	SW		A			1	2	0	0 FAA	0	IIIA	0	0	0
02/23/90	168	HOUSTON	IAH	TX	SW		I	I		3	5	3	0 FAA	1	IIIA	0	0	0
02/23/90	168A	HOUSTON (DAVID W. HOOKS)	DWH	TX	SW	IAH				1	1	0	1 FAA	0	IIIA	0	0	0
02/23/90	168B	WILLIAM P. HOBBY ARPRT	HOU	TX	SW	IAH				1	3	0	1 FAA	0	IIIA	0	0	0
02/23/90	168C	ELLINGTON AFB	EFD	TX	SW	IAH				1	1	0	1 USAF	0	IIIA	0	0	0
03/25/90	172	LONGVIEW	GGG	TX	SW		L			3	3	0	0 FAA	0	IIA	0	0	0
05/25/90	178	OKLAHOMA CITY (W ROGERS)	OKC	OK	SW		G	F		2	2	2	0 FAA	0	IIIA	0	0	0
05/25/90	178A	WILEY POST/BETHANY	PWA	OK	SW	OKC				1	1	0	1 FAA	0	IIIA	0	0	0
05/25/90	178B	TINKER AFB	TIK	OK	SW	OKC				1	1	0	1 USAF	0	IIIA	0	0	0
06/24/90	161	CORPUS CHRISTI	CRP	TX	SW		J			1	1	0	0 FAA	0	IIA	0	0	0
06/24/90	166	POST AAF (FORT SILL)	FSI	OK	SW		M			1	1	1	0 USA	0	IIA	1	0	0
06/24/90	166A	LAWTON	LAW	OK	SW	FSI				1	1	0	1 FAA	0	IIA	0	1	1
06/24/90	171	LITTLE ROCK	LIT	AR	SW		J			1	1	0	0 FAA	0	IIA	0	0	0
07/25/90	182	SHREVEPORT(BARKSDALE)	BAD	LA	SW		I			0	0	3	0 FAA	1	IIIA	0	0	0
07/25/90	182A	DOWNTOWN-SHREVEPORT	DTN	LA	SW	BAD				1	1	0	1 FAA	0	IIIA	0	0	0
07/25/90	182B	REGIONAL APT-SHREVEPORT	SHV	LA	SW	BAD				1	2	0	1 FAA	0	IIIA	0	0	0
07/25/90	182C	BARKSDALE AFB	BAD	LA	SW	BAD				1	1	0	1 USAF	0	IIIA	0	0	0

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DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# D S C	# D I S	# R E M	# S A T	AGENCY	M D B M	INTF AUTO SYST	T M L T	T M L R	T M L I
08/24/90	170	LAKE CHARLES	LCH	LA	SW		J			1	2	0	0	FAA	0	IIA	0	0	0
08/24/90	173	LUBBOCK	LBB	TX	SW		M			1	1	1	0	FAA	0	IIA	0	0	0
08/24/90	173A	REESE AFB	REE	TX	SW	LBB				1	1	0	1	USAF	0	IIA	0	0	0
08/24/90	180	SAN ANGELO (NEW)	SJT	TX	SW		L			3	3	0	0	FAA	0	IIA	0	0	0
09/23/90	158	AUSTIN	AUS	TX	SW		Q			2	2	1	0	FAA	0	IIA	0	0	0
09/23/90	158A	BERGSTROM AFB	BSM	TX	SW	AUS				1	1	0	1	USAF	0	IIA	0	0	0
09/23/90	164	FAYETTEVILLE	FYV	AR	SW		L			3	3	0	0	FAA	0	IIA	0	0	0
10/24/90	169	LAFAYETTE	LFT	LA	SW		K			2	2	0	0	FAA	0	IIA	0	0	0
*** Total ***										69	92	26	26		2		3	2	3

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DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# DSC	# DSI	# RSM	# AGENCY SAT	M DB M	INTF AUTO SYST	T M L T	T M L R	T M L I
07/25/89	185	BAKERSFIELD	BFL	CA	WP		J			1	2	0	0 FAA	0	IIA	0	0	0
08/24/89	199	MONTEREY *	MRY	CA	WP		M			1	2	1	0 FAA	0	IIA	0	0	0
08/24/89	199A	FORT ORD (FRITZSCHE AAF)	OAR	CA	WP	MRY				1	1	0	1 USA	0	IIA	0	0	0
10/24/89	186	BURBANK	BUR	CA	WP		D			1	2	1	0 FAA	0	IIIA	0	0	0
10/24/89	186A	VAN NUYS	VNY	CA	WP	BUR				1	2	0	1 FAA	0	IIIA	0	0	0
10/24/89	193	LAS VEGAS	LAS	NV	WP		I			2	3	1	0 FAA	0	IIIA	0	0	0
10/24/89	193A	N. LAS VEGAS	VGT	NV	WP	LAS				1	2	0	1 FAA	0	IIIA	0	0	0
11/23/89	188	EL TORO	NZJ	CA	WP		I	I	H	0	0	8	0 FAA	0	IIIA	0	0	0
11/23/89	188A	EL TORO MCAS	NZJ	CA	WP	NZJ				1	1	0	1 FAAN	0	IIIA	0	0	0
11/23/89	188B	LONG BEACH ATCT	LGB	CA	WP	NZJ				1	2	0	1 FAA	0	IIIA	0	0	0
11/23/89	188C	SANTA ANA (JOHN WAYNE)	SNA	CA	WP	NZJ				1	3	0	1 FAA	0	IIIA	0	0	0
11/23/89	188D	FULLERTON	FUL	CA	WP	NZJ				1	1	0	1 FAA	0	IIIA	0	0	0
11/23/89	188E	TORRANCE	TOA	CA	WP	NZJ				1	1	0	1 FAA	0	IIIA	0	0	0
11/23/89	188F	TUSTIN MCAS	NTK	CA	WP	NZJ				1	1	0	1 FAAN	0	IIIA	0	0	0
11/23/89	188G	LOS ALAMITOS AAF	SLI	CA	WP	NZJ				2	1	0	1 USA	0	IIIA	0	0	0
11/23/89	197	LUKE AFB (GLENDALE) #2	LUF	AZ	WP		V			0	0	2	0 USAF	0	PIDP	0	0	0
11/23/89	197	LUKE AFB (GLENDALE)	LUF	AZ	WP		U			1	1	0	0 USAF	0	PIDP	0	0	0
11/23/89	197A	DEER VALLEY	DVT	AZ	WP	LUF				1	2	0	1 FAA	0	PIDP	0	0	0
11/23/89	197B	LITCHFIELD (GOODYEAR)	GYR	AZ	WP	LUF				1	2	0	1 FAA	0	PIDP	0	0	0
12/24/89	190	HILO	ITO	HI	WP		L			3	3	0	0 FAA	0	IIA	0	0	0
12/24/89	191	HONOLULU	HNL	HI	WP		D			1	3	1	0 FAA	0	IIIA	0	0	0
12/24/89	191A	WHEELER AAF(SCHOFIELD)	HHI	HI	WP	HNL				1	1	0	1 USA	0	IIIA	0	0	0
12/24/89	192	KAHULUI	OGG	HI	WP		J			1	2	0	0 FAA	0	IIA	0	0	0
12/24/89	194	LIHUE (EST=T)	LIH	HI	WP		J			1	2	0	0 FAA	0	IIA	0	0	0

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DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# D S C	# D I S	# R E M	# AGENCY S A T	M INTF D AUTO B SYST M	T T T M M M L L L T R I
03/25/90	201	OAKLAND BAY TRACON (CMC)	090	CA	WP		I	I	I	0	0	9	0 FAA	1 IIIA	0 0 0
03/25/90	201	OAKLAND BAY TRACON (2ND)	090	CA	WP		G			0	0	1	0 FAA	0 IIIA	0 0 0
03/25/90	201A	OAKLAND NORTH	OAK	CA	WP	090				1	2	0	1 FAA	0 IIIA	0 0 0
03/25/90	201B	OAKLAND SOUTH	OAK	CA	WP	090				1	2	0	1 FAA	0 IIIA	0 0 0
03/25/90	201C	ALAMEDA NAS (USN)	NGZ	CA	WP	090				1	1	0	1 FAAN	0 IIIA	0 0 0
03/25/90	201D	HAYWARD	HWD	CA	WP	090				1	1	0	1 FAA	0 IIIA	0 0 0
03/25/90	201E	PALO ALTO	PAO	CA	WP	090				1	1	0	1 FAA	0 IIIA	0 0 0
03/25/90	201F	SAN CARLOS	SQL	CA	WP	090				1	1	0	1 FAA	0 IIIA	0 0 0
03/25/90	201G	SAN FRANCISCO	SFO	CA	WP	090				2	3	0	1 FAA	0 IIIA	0 0 0
03/25/90	201H	SAN JOSE MUNICIPAL	SJC	CA	WP	090				1	3	0	1 FAA	0 IIIA	0 0 0
03/25/90	201I	SAN JOSE/REID-HILLVIEW	RHV	CA	WP	090				1	2	0	1 FAA	0 IIIA	0 0 0
03/25/90	201J	MOFFETT FIELD NAS (USN)	NUQ	CA	WP	090	X	X		2	2	0	1 FAAN	0 IIIA	0 0 0
04/24/90	212	CASTLE AFB	MER	CA	WP		V			1	1	1	0 USAF	0 PIDP	0 0 0
04/24/90	212A	MODESTO	MOD	CA	WP	MER				1	2	0	1 FAA	0 PIDP	0 0 0
05/25/90	202	ONTARIO TRACON	040	CA	WP		I	G		0	0	4	0 FAA	0 IIIA	0 0 0
05/25/90	202A	ONTARIO	ONT	CA	WP	040				1	3	0	1 FAA	0 IIIA	0 0 0
05/25/90	202B	BRACKETT FIELD (LAVERNE)	POC	CA	WP	040				1	1	0	1 FAA	0 IIIA	0 0 0
05/25/90	202C	CHINO	CNO	CA	WP	040				1	1	0	1 FAA	0 IIIA	0 0 0
05/25/90	202D	RIVERSIDE	RAL	CA	WP	040				1	1	0	1 FAA	0 IIIA	0 0 0
05/25/90	210	TUCSON (DAVIS-MONTHAN)	DMA	AZ	WP		H			0	0	2	0 FAA	0 IIIA	0 0 0
05/25/90	210A	TUCSON INTERNATIONAL	TUS	AZ	WP	DMA				1	2	0	1 FAA	0 IIIA	0 0 0
05/25/90	210B	DAVIS-MONTHAN AFB	DMA	AZ	WP	DMA				1	1	0	1 USAF	0 IIIA	0 0 0
06/24/90	196	LOS ANGELES TRACON	L90	CA	WP		I	G		0	0	3	0 FAA	0 IIIA	0 0 0
06/24/90	196A	LOS ANGELES	LAX	CA	WP	L90				2	3	0	1 FAA	0 IIIA	0 0 0

DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# D S C	# D I S	# R E M	# AGENCY S A T	M D B M	INTF AUTO SYST	T M L T	T M L R	T M L I
06/24/90	196B	HAWTHORNE	HHR	CA	WP	L90				1	1	0	1 FAA	0	IIIA	0	0	0
06/24/90	196C	SANTA MONICA	SMO	CA	WP	L90				1	1	0	1 FAA	0	IIIA	0	0	0
06/24/90	200	NELLIS AFB (EGLIN REIMB)	LSV	NV	WP		G			1	1	0	0 USAF	0	IIIA	0	0	0
06/24/90	211	AGANA CERAP	ZUA	GU	WP					0	0	1	0 FAA	0	IIA	0	0	0
06/24/90	211A	ANDERSON AFB/GUAM	GUM	GU	WP	ZUA	O			1	1	0	1 USAF	0	IIA	0	0	0
07/25/90	198	MIRAMAR NAS (SAN DIEGO)	NKX	CA	WP		I	G		1	1	3	0 FAAN	1	IIIA	0	0	0
07/25/90	198A	CARLSBAD/PALOMAR	CRQ	CA	WP	NKX				1	1	0	1 FAA	0	IIIA	0	0	0
07/25/90	198B	LINDBERGH	SAN	CA	WP	NKX				1	2	0	1 FAA	0	IIIA	0	0	0
07/25/90	198C	MONTGOMERY	MYF	CA	WP	NKX				1	1	0	1 FAA	0	IIIA	0	0	0
07/25/90	203	PALM SPRINGS	PSP	CA	WP		L			3	4	0	0 FAA	0	IIA	0	0	0
08/24/90	206	RENO	RNO	NV	WP		J			1	2	0	0 FAA	0	IIA	0	0	0
08/24/90	207	SACRAMENTO (MCCLELLAN)	MCC	CA	WP		I	H		0	0	5	0 FAA	0	IIIA	0	0	0
08/24/90	207A	SACRAMENTO METRO	SMF	CA	WP	MCC				1	2	0	1 FAA	0	IIIA	0	0	0
08/24/90	207B	SACRAMENTO EXECUTIVE	SAC	CA	WP	MCC				1	2	0	1 FAA	0	IIIA	0	0	0
08/24/90	207C	MCCLELLAN AFB	MCC	CA	WP	MCC				1	1	0	1 USAF	0	IIIA	0	0	0
08/24/90	207D	MATHER AFB	MHR	CA	WP	MCC				1	1	0	1 USAF	0	IIIA	0	0	0
08/24/90	207E	BEALE AFB	BAB	CA	WP	MCC				1	1	0	1 USAF	0	IIIA	0	0	0
09/23/90	189	FRESNO	FAT	CA	WP		J			1	2	0	0 FAA	0	IIA	0	0	0
09/23/90	208	SANTA BARBARA	SBA	CA	WP		J			1	2	0	0 FAA	0	IIA	0	0	0
09/23/90	209	STOCKTON	SCK	CA	WP		J			1	2	0	0 FAA	0	IIA	0	0	0
10/24/90	204	PHOENIX	PHX	AZ	WP		A			1	3	0	0 FAA	0	IIIA	0	0	0
11/23/90	205	PT. MUGU NAS (USN/FAA)	NTD	CA	WP					0	0	1	0 FAA	0	TPX-42	0	0	0
11/23/90	205A	OXNARD	OXR	CA	WP	NTD	W			1	1	0	1 FAA	0	TPX-42	0	0	0
02/22/91	187	EDWARDS AFB	EDW	CA	WP		W			1	1	2	0 USAF	0	TPX-42	0	0	0
02/22/91	187A	LANCASTER	WJF	CA	WP	EDW	W			1	2	0	1 FAA	0	TPX-42	0	0	0
02/22/91	187B	PALMDALE	PMD	CA	WP	EDW				0	1	0	1 FAA	0	TPX-42	0	0	0
*** Total ***										72	109	46	45	2		0	0	0

FAATC

DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	C S 1	C S 2	C S 3	# DSC	# DIS	# REM	# AGENCY	M DB M	INTF AUTO SYST	T M L T	T M L R	T M L I
12/24/89	146	FAATC 2	TEC	NJ	CT		L			3	3	0	0 FAA	0	IIA	0	0	0
12/24/89	146A	FAATC 3	TEC	NJ	CT		C			3	3	0	0 FAA	0	IIIA	0	0	0
04/24/90	146B	FAATC (NYT)CHG TO X X	TEC	NJ	CT		C			3	3	0	0 FAA	0	IIIA	0	0	0
*** Total ***										9	9	0	0	0		0	0	0

AAC

DBRITE FACILITIES AND CONFIGURATIONS

DELIVERY DATE	SEQ NUM	FACILITY NAME	ID	ST	RO	HOST ID	CSS 1	CSS 2	CSS 3	# DSC	# DIS	# REM	# SAT	AGENCY	MDB M	INTF AUTO SYST	TML T	TML R	TML I
06/23/88	1	ACADEMY #1	OEX	OK	AC		J			1	1	0	0	FAA	0	IIA	0	0	0
10/24/88	1A	ACADEMY #2	OEX	OK	AC		J			1	1	0	0	FAA	0	IIA	0	0	0
10/24/88	2	ACADEMY #3	OEX	OK	AC		J			1	1	0	0	FAA	0	IIA	0	0	0
10/24/88	3	ACADEMY #4	OEX	OK	AC		J			1	2	0	0	FAA	0	IIIA	0	0	0
06/24/89	4	ACADEMY #5	OEX	OK	AC		A			1	1	0	0	FAA	0	IIIA	0	0	0
08/24/89	18	FAA DEPOT 2 (SDC LOAN)	DEP	OK	AC		J			1	1	0	0	FAA	0	IIA	0	0	0
12/24/89	19	FAA DEPOT 3 (HOT)	DEP	OK	AC		C			3	3	0	0	FAA	0	IIIA	0	0	0
01/23/91	7	ACADEMY #6 & #7	OEX	OK	AC		J	J		2	4	0	0	FAA	0	IIA	0	0	0
*** Total ***										11	14	0	0		0		0	0	0

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APPENDIX 2. TML SITES FOR NATIONAL BUY

RECEIVER SITE	ID	ST	RE	TRANSMITTER SITE	ID	ST	RE	T	R
CRYSTAL	MIC	MN	GL	MINNEAPOLIS	MSP	MN	GL	1	1
SAINT PAUL	STP	MN	GL	MINNEAPOLIS	MSP	MN	GL	1	1
ALTON	AIN	IL	GL	SAINT LOUIS	STL	MO	CE	1	3
AURORA	ARR	IL	GL	CHICAGO (O'HARE)	ORD	IL	GL	1	2
CHICAGO (MEIGS)	CGX	IL	GL	CHICAGO (O'HARE)	ORD	IL	GL	1	3
EAST SAINT LOUIS	CPS	IL	GL	SAINT LOUIS	STL	MO	CE	1	3
KEY WEST	EYW	FL	SO	KEY WEST NAS	NZS	FL	SO	1	0
SAN ANTONIO (STINSON)	SSF	TX	SW	SAN ANTONIO	SAT	TX	SW	1	1
JACKSONVILLE (CRAIG)	CRG	FL	SO	JACKSONVILLE	JAX	FL	SO	1	1
RENTON	RNT	WA	NM	SEATTLE	SEA	WA	NM	1	2
TACOMA	TIW	WA	NM	SEATTLE	SEA	WA	NM	1	1
COLUMBUS (OSU)	OSU	OH	GL	COLUMBUS	CMH	OH	GL	1	1
OGDEN	OGD	UT	NM	SALT LAKE CITY	SLC	UT	NM	1	1
GRAND FORKS	GFK	ND	GL	GRAND FORKS AFB	RDR	ND	GL	1	1
RAPID CITY	RAP	ND	GL	ELLSWORTH AFB	RCA	ND	GL	1	1
CLEVELAND (BURKE)	DKL	OH	GL	CLEVELAND	CLE	OH	GL	1	1
LAWTON	LAW	OK	SW	FORT SILL (POST AAB)	FSI	OK	SW	1	1
MACON (WILSON)	MCN	GA	SO	MACON (ROBINS AFB)	WRB	GA	SO	1	0
MILWAUKEE (TIMME)	MWC	WI	GL	MILWAUKEE	MKE	WI	GL	1	1
SPOKANE (FELTS)	SFF	WA	NM	SPOKANE	GEG	WA	NM	1	1
UTICA	UCA	NY	EA	ROME (GRIFFISS AFB)	RME	NY	EA	1	1
SAN DIEGO (BROWN)	SDM	CA	WP	SAN DIEGO (MIRAMAR)	NKX	CA	WP	1	1
HAWKINS	HKS	MS	SO	JACKSON	JAN	MS	SO	1	1
SAN JUAN (ISL GRANDA)	SJU	PR	SO	SAN JUAN (ISL VERDI)	ZSU	PR	SO	1	1
HILLSBORO	HIO	OR	NM	PORTLAND	PDX	OR	NM	1	1
FALCON (MESA)	FFZ	AZ	WP	WILLIAMS AFB	CHD	AZ	WP	1	1
CONCORD	CCR	CA	WP	MILL VALLEY	ZMY	CA	WP	1	1

APPENDIX 2. TML SITES FOR NATIONAL BUY (Con't)

RECEIVER SITE	ID	SR	RE	TRANSMITTER SITE	ID	ST	RE	T	R
REDDING	RDD	CA	WP	RED BLUFF	RBL	CA	WP	1	1
SCOTTSDALE	SDL	AZ	WP	HUMBOLT	4HM	CA	WP	1	0
ALEXANDRIA (ESLER)	ESF	LA	SW	ALEXANDRIA	AEX	LA	SW	1	0
APPLETON	ATW	WI	GL	GREEN BAY	GRB	WI	GL	1	2
EL MONTE	EMT	CA	WP	EL TORO	NZT	CA	WP	1	0
ATLANTIC CITY (FAATC)	TEC	NJ	CT	ATLANTIC CITY (FAATC)	TEC	NJ	CT	1	1

APPENDIX 3. DBRITE PROJECT PERSONNEL

This appendix contains the following tables with the names, addresses and telephone numbers of people associated with the DBRITE project in various organizations and functions.

TABLE A3-1. REGIONAL DBRITE PROJECT MANAGERS

REGION	F&E	ATC OPERATIONS	SEIC
AAL	LEONARD GRAU AAL-454A FAA REGIONAL HQ-AL 701 C ST. (BOX 14) ANCHORAGE, AK 99513 FTS COMM 907-271-5222	JAMES TITUS AAL-518 FAA REGIONAL HQ-AL 701 C ST. (BOX 14) ANCHORAGE, AK 99513 FTS COMM 907-271-5884	MIKE CHAMBERS MARTIN MARIETTA-ATC FAA REGIONAL HQ-AL 701 C ST.(BOX 14) ANCHORAGE, AK 99513 FTS COMM 907-271-5310
ACE	RICHARD HOLLOWAY ACE-452 FAA REGIONAL HQ-CE 601 EAST 12th ST KANSAS CITY, MO 64106 FTS 867-7123 COMM 816-426-8633	WALLY PFAFF ACE-510A FAA REGIONAL HQ-CE 601 EAST 12th ST KANSAS CITY, MO 64106 FTS 867-3400 COMM 816-426-3400	RICHARD COUGHLIN MARTIN MARIETTA-ATC FAA REGIONAL HQ-CE 601 EAST 12th ST KANSAS CITY, MO 64106 FTS COMM 816-426-8633
AEA	RICHARD O`CONNER AEA-432 FAA REGIONAL HQ-EA JFK INT AIRPORT FITZGERALD FEDERAL BLDG. JAMAICA, NY 11430 FTS 667-1199 COMM 718-917-1199	FRANK STORR AEA-520.1 FAA REGIONAL HQ-EA JFK INT. AIRPORT FITZGERALD FEDERAL BLDG. JAMAICA, NY 11430 FTS 667-1225 COMM 718-917-1225	MIKE CEGLIA MARTIN MARIETTA-ATC FAA REGIONAL HQ-EA JFK INT. AIRPORT FITZGERALD FEDERAL BLDG. JAMAICA, NY 11430 FTS COMM 718-917-0378
AGL	CHUCK PERI AGL-451 FAA REGIONAL HQ-GL 2300 EAST DEVON DES PLAINES, IL 60018 FTS 384-7656 COMM 312-694-7656	PHILLIP REICHART AGL-550.6 FAA REGIONAL HQ-GL 2300 EAST DEVON DES PLAINES, IL 60018 FTS 384-7561 COMM 312-694-7561	PAUL J MEYER MARTIN MARIETTA-ATC FAA REGIONAL HQ-GL 2300 EAST DEVON SUITE 223 DES PLAINES, IL 60018 FTS COMM 312-694-7783

TABLE A3-1. REGIONAL DBRITE PROJECT MANAGERS (CON'T)

REGION	F&E	ATC OPERATIONS	SEIC
ANE	BILL TRETTER ANE-460 FAA REGIONAL HQ-NE 12 NEW ENGLAND EXECUTIVE PARK BURLINGTON, MA 01803 FTS 836-7211 COMM 617-273-7211	BILL BYBERG ANE-511 FAA REGIONAL HQ-NE 12 NEW ENGLAND EXECUTIVE PARK BURLINGTON, MA 01803 FTS 836-7133 COMM 617-272-7133	BRIAN JAMESON MARTIN MARIETTA-ATC FAA REGIONAL HQ-NE 12 NEW ENGLAND EXECUTIVE PARK BURLINGTON, MA 01803 FTS COMM 617-272-7165
ANM	LEE SLAUGHTER MARSHALL OJEDA ANM-455C FAA REGIONAL HQ-NM 17900 PACIFIC HWY- SOUTH C-68966 SEATTLE, WA 98168 FTS 446-2357 COMM 206-431-2357	RAY MASSIE ANM-515 FAA REGIONAL HQ-NM 17900 PACIFIC HWY- SOUTH SEATTLE, WA 98168 FTS 446-2515 COMM 206-431-2515	KEN JACROUX MARTIN MARIETTA-ATC SEA-TAC OFFICE CTR. SUITE 608 18000 PACIFIC HWY- SOUTH SEATTLE, WA 98188 FTS COMM 206-431-2037
ASO	GARY VIZZINI ASO-432 FAA REGIONAL HQ-SO 3420 NORMAN BERRY DRIVE EAST POINT, GA 30344 FTS 246-7373 COMM 404-763-7373	HARLEN PHILLIPS ASO-514.4 FAA REGIONAL HQ-SO 3420 NORMAN BERRY DRIVE EAST POINT, GA 30344 FTS 246-7488 COMM 404-763-7488	DARRAL SALTER MARTIN MARIETTA-ATC SUITE 524 3420 NORMAN BERRY DRIVE EAST POINT, GA 30344 FTS 246-7795 COMM 404-761-6070
ASW	FERN MENDOZA ASW-433.3 FAA REGIONAL HQ-SW 4400 BLUE MOUND RD FORT WORTH, TX 76101 FTS 734-5393 COMM 817-624-5393	RON MOORE ASW-511C FAA REGIONAL HQ-SW 4400 BLUE MOUND RD FORT WORTH, TX 76101 FTS 734-5516 COMM 817-624-5516	JOE B. CREES DEPT OF TRANSP. FAA ATTN: ASW-SEIC FORT WORTH, TX 76193-0400 FTS 734-5635 COMM 817-624-5635

TABLE A3-1. REGIONAL DBRITE PROJECT MANAGERS (CON'T)

REGION	F&E	ATC OPERATIONS	SEIC
AWP	MICKEY MARTINEZ AWP-422.42 FAA REGIONAL HQ-WP 1500 AVIATION BLVD LAWNDALE, CA 90261 FTS 984-1423 COMM 213-297-1423	DAVE SMITH AWP-512 FAA REGIONAL HQ-WP 1500 AVIATION BLVD LAWNDALE, CA 90261 FTS 984-1726 COMM 213-297-1726	JOHN SEITZ MARTIN MARIETTA-ATC 1500 AVIATION BLVD LAWNDALE, CA 90261 FTS COMM 213-297-0034

TABLE A3-2. FAA HEADQUARTERS PROJECT MANAGERS

	FAA	SEIC
AAP-320	JOHN HORROCKS PROJECT TEAM LEAD 800 INDEPENDENCE AVE SW WASHINGTON, D.C. 20591 FTS 267-8364 202-267-8364	
AAP-320	ROBERT PALMERSHEIM DBRITE PROJECT MANAGER 800 INDEPENDENCE AVE SW WASHINGTON, D.C. 20591 FTS 267-8362 202-267-8362	DALE KALLSEN DBRITE PROJECT LEAD MARTIN MARIETTA/DC7920 475 SCHOOL ST SW WASHINGTON, D.C. 20024 FTS 967-5675 202-646-5675
AAP-320	JIM WEED TML SUPPORT MANAGER 800 INDEPENDENCE AVE SW WASHINGTON, D.C. 20591 FTS 267-8360 202-267-8360	PAUL LOESER TML SUPPORT LEAD MARTIN MARIETTA/DC7920 475 SCHOOL ST SW WASHINGTON, D.C. 20024 FTS 967-5594 202-646-5594
ATR-120	RALPH BEARD AIR TRAFFIC (DBRITE) 800 INDEPENDENCE AVE SW WASHINGTON, D.C. 20591 FTS 267-9181 202-267-9181	

TABLE A3-3. REGIONAL DATA MULTIPLEXING NETWORK ASSOCIATE PROGRAM MANAGERS

REGION	MANAGER	ROUTING	FTS PHONE	COMM. PHONE
AAL	LEONARD GRAU	AAL-454A	--------	907-271-5222
ACE	ALEX GARCIA	ACE-452	867-7123	816-426-7123
AEA	NELSON KNOX	AEA-432	667-1190	718-917-1190
AGL	CLAUDE NUNEZ	AGL-422.1	384-7501	312-694-7501
ANE	WALT MACOMBER	ANE-420	836-7214	627-273-7214
ANM	MARK GORDHAMER	ANM-452	446-2362	206-431-2362
ASO	LARRY KING	ASO-423	246-7387	404-763-7387
ASW	FULTON COOK	ASW-420	734-5473	817-624-5473
AWP	DAN GUTIERREZ	AWP-422	984-1421	213-297-1421

APPENDIX 4. REFERENCE DOCUMENTS

Document No.	Title
AFR 80-14	Test and Evaluation
DOD-D-1000B	Drawing, Engineering and Associated Lists
DTFA01-84-2-0204B	USAF/FAA Interagency Agreement
DTFA01-85-Y-01002	USAF DBRITE Contract w/ UNISYS
FAA-E-2552A	Technical Training
FAA-G-1375	Spare Parts-Peculiar for Electronic, Electrical and Mechanical Equipment
FAA Order 1810.4	ADL Test and Evaluation Program
FAA Order 6030.41	Notification Plan for Unscheduled Facility and Service Outages
FAA Order 6030.45	Facility Reference Data File
FAA Order 6040.15	National Airspace Performance Reporting System
FAA-STD-020a	Transient Protection, Grounding, Bonding & Shielding Requirements for Equipment
FAA-STD-024A	Preparation of Test & Evaluation Plans and Procedures
MIL-C-9877	Cards, Aperture
MIL-M-9868	Requirements of Microfilming of Engineering Documents (35mm)
MIL-P-9024	Transportability in Packaging and Handling
MIL-STD-461B	Electromagnetic Emission & Susceptibility for the Control of Electromagnetic Interference
MIL-STD-483	Configuration Management Practices for Systems, Equipment, Munitions and Computer Programs

APPENDIX 4. REFERENCE DOCUMENTS (CON'T)

Document No.	Title
MIL-STD-794	Procedures for Packaging and Packing of Parts and Equipment
MIL-STD-1388	DOD Requirements for Logistics Support Analysis Record
MIL-STD-1561D	Provisioning Procedures
TEMP	Test & Evaluation Master Plan for DBRITE

APPENDIX 5. ACRONYMS

A/N	ALPHANUMERICS
A/B	AURAL ALARM BOX
A/C	AERONAUTICAL CENTER
AAP	AUTOMATION SERVICE
AAP-1	DIRECTOR, AUTOMATION SERVICE
AAP-300	ATC AUTOMATION DIVISION
AAP-320	TERMINAL AUTOMATION PROGRAM BRANCH
AAT	AIR TRAFFIC
ACO	AQUISITION CONTRACTING OFFICER
ACP	AZIMUTH CHANGE PULSE
ADL	DEVELOPMENT AND LOGISTICS
AFCC	AIR FORCE COMMUNICATION COMMAND
AFLC	AIR FORCE LOGISTICS COMMAND
ALG	AQUISTION AND MATERIAL SERVICE
ASM-160	NATN'L AUTO`M ENGINEERING FIELD SUPPORT SECTOR
ARP	AZIMUTH RANGE PULSE
ASC	AUTOMATION SYSTEM CONNECTOR (PANEL)
ATC	AIR TRAFFIC CONTROL
ATCBI	AIR TRAFFIC CONTROL BEACON INTERROGATOR
ATCT	AIR TRAFFIC CONTROL TOWER
ATO	AIR TRAFFIC OPERATIONS SERVICE
ATO-100	ATC OPERATIONS DIVISION
ATO-259	CARTOGRAPHIC STANDARDS SECTION
ATR	AIR TRAFFIC PLANS AND REQUIREMENTS SERVICE
ATR-100	SYSTEM PLANS AND PROGRAMS DIVISION
ATR-200	AUTOMATION SOFTWARE DIVISION
BANS	BRITE ALPHANUMERICS SYSTEM
BIT	BUILT IN TEST
BRITE	BRIGHT RADAR INDICATOR TOWER EQUIPMENT
CCA	CIRCUIT CARD ASSEMBLY
CCB	CONFIGURATION CONTROL BOARD
CCD	CONFIGURATION CONTROL DECISION
CDR	CRITICAL DESIGN REVIEW

APPENDIX 5. ACRONYMS (CON'T)

CFE	CONTRACTOR FURNISHED EQUIPMENT
CM	CONFIGURATION MANAGEMENT
CO	CONTRACTING OFFICER
CPC	COMPUTER PROGRAM COMPONENT
CPCI	COMPUTER PROGRAM CONFIGURATION ITEMS
DBRITE	DIGITAL BRIGHT RADAR INDICATOR TOWER EQUIPMENT
DCAS	DEFENSE CONTRACT ADMINISTRATION AND SUPPORT
DCASMA	DEFENSE CONTRACT ADMIN & SUPPORT MGM'T AREA
DCP	DISPLAY CONTROL PANEL
DES	DATA ENTRY SET
DSC	DIGITAL SCAN CONVERTER
E&R	EXCHANGE & REPAIR
ECP	ENGINEERING CHANGE PROPOSAL
EMC	ELECTROMAGNETIC COMPATIBILITY
EMI	ELECTROMAGNETIC INTERFERENCE
ESD	ELECTRONIC SYSTEM DIVISION
ESD/TCV	ESD, MILITARY ATC DIVISION
FAA	FEDERAL AVIATION ADMINISTRATION
FAATC	FEDERAL AVIATION ADMINISTRATION TECHNICAL CENTER
FRB	FAILURE REVIEW BOARD
GFE	GOVERNMENT FURNISHED EQUIPMENT
I/F	INTERFACE
I/F CCA	INTERFACE CIRCUIT CARD ASSEMBLY
I/O	INPUT/OUTPUT
ICWG	INTERFACE CONTROL WORKING GROUP
ILS	INTEGRATED LOGISTIC SUPPORT
ILSMR	INTEGRATED LOGISTIC SUPPORT MANAGEMENT REVIEW
ILSMT	INTEGRATED LOGISTIC SUPPORT MANAGEMENT TEAM
ILSP	INTEGRATED LOGISTIC SUPPORT PLAN
IFR	INSTRUMENT FLIGHT RULES
IOC	INITIAL OPERATION CAPABILITY
IOPB	INPUT/OUTPUT PROCESSOR MODIFICATION B
ISP	INTEGRATION SUPPORT PLAN

APPENDIX 5. ACRONYMS (CON'T)

ISSAC	INITIAL SITE SUPPORT ALLOWANCE CHARTS
JAI	JOINT ACCEPTANCE INSPECTION
KBD	KEYBOARD
KBD/PEM	KEYBOARD/POSITION ENTRY MODULE
LED	LIGHT EMITTING DIODE
LRU	LINE REPLACEABLE UNIT
LSA	LOGISTIC SUPPORT ANALYSIS
LSAP	LOGISTIC SUPPORT ANALYSIS PLAN
MCP	MAINTENANCE CONTROL PANEL
MDBM	MULTIPLEX DISPLAY BUFFER MEMORY
MDDF	MASTER DELIVERY DATA FILE
ME	MAINTENANCE ENGINEERING
MM	MAINTENANCE MONITOR
MOA	MEMORANDUM OF AGREEMENT
MTBF	MEAN TIME BETWEEN FAILURE
MTI	MOVING TARGET INDICATOR
MTTR	MEAN TIME TO REPAIR
NAILSMT	NATIONAL AIRSPACE INTEGRATION LOGISTIC SUPPORT MANAGEMENT TEAM
NAPRS	NATIONAL AIRSPACE PERFORMANCE REPORTING SYSTEM
NAS	NATIONAL AIRSPACE SYSTEM
NGCE	NUMERICS GENERATION AND CONVERSION EQUIPMENT
NOS	NATIONAL OCEAN SERVICE
ORD	OPERATIONAL READINESS DEMONSTRATION
PDR	PRELIMINARY DESIGN REVIEW
PEM	POSITION ENTRY MODULE
PHS&T	PACKING, HANDLING, SHIPPING AND TRANSPORTATION
PICA	PRIME INVENTORY CONTROL ACTIVITY
PIDP	PROGRAMMABLE INDICATOR DATA PROCESSOR
PIP	PROJECT IMPLEMENTATION PLAN
PPI CCA	PLANNED POSITION INDICATOR CIRCUIT CARD ASSEMBLY
PPI	PLANNED POSITION INDICATOR
PS&J	POWER SUPPLY AND JUNCTION (BOX)
PSRB	PROGRAM STATUS REVIEW BOARD

APPENDIX 5. ACRONYMS (CON'T)

PTD	PROVISIONING TECHNICAL DOCUMENTATION
QT&E	QUALITY TEST AND EVALUATION
QOT&E	QUALITY OPERATIONAL TEST AND EVALUATION
QRO	QUALITY/RELIABILITY OFFICER
RAPCON	RADAR APPROACH CONTROL
RCU	REMOTE CONTROL UNIT
RIA	REMOTE INTERFACE ADAPTER
RIG	REGIONAL INTEGRATION GROUP
ROM	READ ONLY MEMORY
SCIP	SURVEILLANCE COMMUNICATION INTERFACE PROCESSOR
SEIC	SYSTEM ENGINEERING AND INTEGRATION CONTRACTOR
SICA	SECONDARY INVENTORY CONTROL ACTIVITY
SRR	SYSTEM REQUIREMENT REVIEW
SYN	SYNTHETIC
SYN CCA	SYNTHETIC CIRCUIT CARD ASSEMBLY
T&E	TEST & EVALUATION
TEMP	TEST AND EVALUATION MASTER PLAN
TIG	TERMINAL INTEGRATION GROUP
TIM	TECHNICAL INTERCHANGE MEETING
TML	TELEVISION MICROWAVE LINK
TOR	TECHNICAL ON-SITE REPRESENTATIVE
TPWG	TEST PLAN WORKING GROUP
TRACON	TERMINAL RADAR APPROACH CONTROL
TRU	TRANSFORMER RECTIFIER UNIT
USA	UNITED STATES ARMY
USAF	UNITED STATES AIR FORCE
VFR	VISUAL FLIGHT RULES